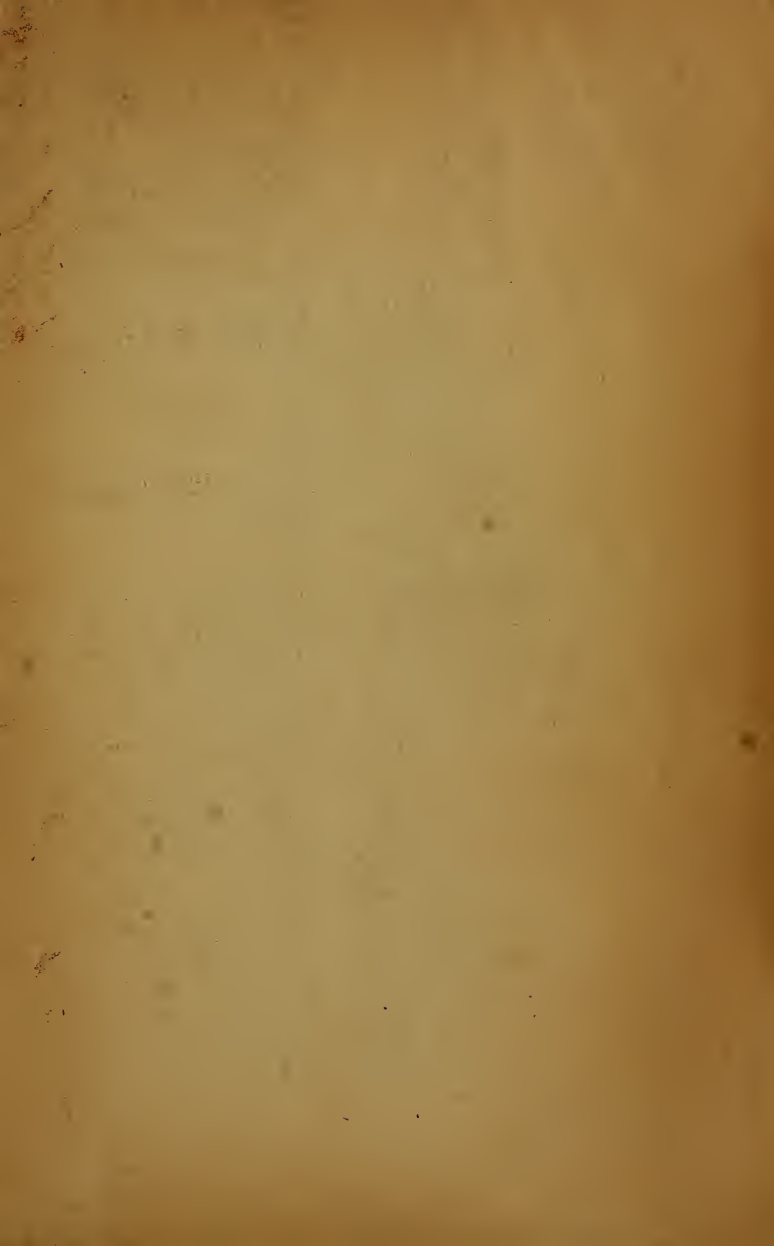


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BOSTON
MEDICAL LIBRARY
ASSOCIATION,
19 BOYLSTON PLACE.



ONE HUNDRED AND FIFTH
ANNUAL CATALOGUE
OF THE
MEDICAL SCHOOL
(BOSTON)
OF
HARVARD UNIVERSITY.
1887-88.

[Reprinted from the Catalogue of the University.]



CAMBRIDGE, MASS.
PUBLISHED BY THE UNIVERSITY
1887.

THE MEDICAL SCHOOL.

BOSTON.

Instruction in this School is given by lectures, recitations, clinical teaching, and practical exercises, uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September,* and ends on the last Wednesday in June. There is a recess at Christmas, beginning December 23, and ending January 2; and a spring recess, beginning on the Wednesday before Fast Day, and ending on the following Tuesday, inclusive.

The course of instruction has been greatly enlarged, and is so arranged as to carry the student progressively and systematically from one subject to another, in a just and natural order.

In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory-work is substituted for, or added to, the usual didactic lectures, and is as much required of every student as attendance at lectures and recitations.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent in all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three and four year's period of study, a series of written and oral examinations on all the main subjects of medical instruction has been distributed for regular students through their entire course of study. Every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction, at some time during his period of study.

* That the time of study shall count as a full term, students of every class must present themselves within the first week of the term and register their names with the Secretary.

1887.

JULY.

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1888.

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JULY.

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OCTOBER.

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CALENDAR.

The meetings of the PRESIDENT AND FELLOWS are held on the second and on the last Monday of every month.

1887.

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|----------------------------|---|
| <i>Sept. 29, Thursday.</i> | Academic Year begins in all departments of the University. |
| <i>Oct. 12, Wednesday.</i> | Stated Meeting of the Board of Overseers. |
| <i>Oct. 19, Wednesday.</i> | Stated Meeting of the Academic Council. |
| <i>Dec. 1, Wednesday.</i> | Last day of receiving applications for aid from the Loan Fund. |
| <i>Dec. 15, Thursday.</i> | Stated Meeting of the Academic Council. |

RECESS FROM DEC. 23, 1887, TO JAN. 2, 1888, INCLUSIVE.

1888.

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|-----------------------------|--|
| <i>Jan. 10, Tuesday.</i> | Applications from Graduate Students for admission to examination for any degree should be made before this date. See p. 266. |
| <i>Jan. 11, Wednesday.</i> | Stated Meeting of the Board of Overseers. |
| <i>Feb. 2, Thursday.</i> | Second half-year begins in the Medical School. |
| <i>Feb. 13, Monday.</i> | Second half-year begins (except in the Medical School). |
| <i>Feb. 15, Wednesday.</i> | Stated Meeting of the Academic Council. |
| <i>March 28, Wednesday.</i> | Last day of receiving applications for the Parker, Kirkland, Walker, and Paine Fellowships. |
| <i>March 31, Saturday.</i> | Last day of re-engaging College Rooms for 1888-89. |
| <i>March 31, Saturday.</i> | Last day of receiving applications of candidates for Second-Year Honors. |

RECESS FROM THE WEDNESDAY BEFORE FAST DAY TO THE FOLLOWING TUESDAY INCLUSIVE.

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| <i>April 11, Wednesday.</i> | Stated Meeting of the Board of Overseers. |
| <i>April 25, Wednesday.</i> | Last day of receiving names of competitors for the Boylston Prizes. |
| <i>May 1, Tuesday.</i> | Last day of receiving dissertations for the Toppan, Dante, Sargent, and Sumner Prizes. |

<i>May 1, Tuesday.</i>	Last day of receiving theses of Candidates for the degree of Ph.D. or S.D. See p. 269.
<i>May 3, Thursday.</i>	Last day of receiving applications for College Rooms for 1888-89.
<i>May 4, Friday.</i>	Assignment of College Rooms for 1888-89.
<i>May 9, Wednesday.</i>	Stated Meeting of the Academic Council.
<i>May 10, Thursday.</i>	Last day of receiving applications for the Tyndall Scholarship.
<i>May 10, Thursday.</i>	Speaking for the Boylston Prizes.
<i>May 15, Tuesday.</i>	Last day of receiving applications for the Morgan Fellowships.
<i>May 29, Tuesday.</i>	Last day of receiving applications for the Harris and Rogers Fellowships, for College Scholarships, and for aid from the Beneficiary Fund.
<i>May 30, Wednesday.</i>	Memorial Day; a holiday.
<i>June 1, Friday.</i>	Last day of receiving applications of Professional Students who wish to be candidates for the degree of A.M. with a professional degree. See p. 268.
<i>June 4, Monday.</i>	Examinations in the Medical School begin.
<i>June 21, Thursday.</i>	Stated Meeting of the Academic Council.
<i>June 22, Friday.</i>	Seniors' Class Day.
<i>June 26, 28-30, Tuesday to Saturday.</i>	Examinations for admission to Harvard College, and to the Lawrence Scientific School.
<i>June 27, Wednesday.</i>	Commencement. Stated Meeting of the Board of Overseers.
SUMMER VACATION OF THIRTEEN WEEKS, FROM COMMENCEMENT DAY TO SEPTEMBER 27.	
<i>June 28, Thursday.</i>	Examinations for admission to the Law School, and to the Medical School.
<i>July 2, Monday.</i>	Summer course in Botany opens.
<i>July 5, Thursday.</i>	Summer courses in Geology and in Physical Training open.
<i>July 9, Monday.</i>	Summer courses in Chemistry open.
<i>Sept. 24, Monday.</i>	Examinations in the Medical School begin.
<i>Sept. 24, Monday.</i>	Examination for admission to the Dental School.
<i>Sept. 25, Tuesday.</i>	Examination for advanced standing in Harvard College begins.

<i>Sept. 25-28, Tuesday to Friday.</i>	Examinations for admission to Harvard College, and to the Lawrence Scientific School.
<i>Sept. 26, Wednesday.</i>	Annual Meeting of the Board of Overseers.
<i>Sept. 27, Thursday.</i>	Academic Year begins in all departments of the University.
<i>Sept. 27, Thursday.</i>	Examination for admission to the Law School.
<i>Sept. 27, 28, Thursday and Friday.</i>	Examination for admission to advanced standing in the Law School.
<i>Oct. 3, Wednesday.</i>	Last day for the <i>Registration</i> of students in the Graduate Department,
<i>Oct. 10, Wednesday.</i>	Stated Meeting of the Board of Overseers.
<i>Oct. 17, Wednesday.</i>	Stated Meeting of the Academic Council.
<i>Oct. 31, Wednesday.</i>	Last day of receiving applications of Candidates for Final Honors in 1889.
<i>Nov. 1, Thursday.</i>	Last day of receiving dissertations for the Bowdoin, and Chauncey Wright Prizes.
<i>Nov. 1, Thursday.</i>	Last day of receiving applications for the Bright and Bigelow Scholarships.
<i>Dec. 1, Saturday.</i>	Last day of receiving applications for aid from the Loan Fund.

ABBREVIATIONS.

C. College House.	H'y. Holworthy Hall.
D. Divinity Hall.	M. Matthews Hall.
G. Grays Hall.	S. Stoughton Hall.
H. Hollis Hall.	T. Thayer Hall.
H'ke. Holyoke House.	W. Weld Hall.

NOTE. — Dormitories within the College grounds are known as Halls; those outside the College grounds, but owned by the University, are called Houses; while others, the property of private owners, are called Blocks or Buildings.



THE MEDICAL SCHOOL.

FACULTY.

- CHARLES W. ELIOT, LL.D., *President.*
HENRY P. BOWDITCH, M.D., *Dean, and Professor of Physiology.*
FRANCIS MINOT, M.D., *Hersey Professor of the Theory and Practice of Physic.*
HENRY W. WILLIAMS, M.D., *Professor of Ophthalmology.*
DAVID W. CHEEVER, M.D., *Professor of Surgery.*
JAMES C. WHITE, M.D., *Professor of Dermatology.*
——— *Jackson Professor of Clinical Medicine.*
FRANK W. DRAPER, M.D., *Assistant Professor of Legal Medicine.*
FREDERICK I. KNIGHT, M.D., *Assistant Professor of Laryngology.*
CHARLES B. PORTER, M.D., *Professor of Clinical Surgery.*
EDWARD N. WHITTIER, M.D., *Assistant Professor of Clinical Medicine.*
J. COLLINS WARREN, M.D., *Associate Professor of Surgery.*
REGINALD H. FITZ, M.D., *Shattuck Professor of Pathological Anatomy.*
WILLIAM L. RICHARDSON, M.D., *Professor of Obstetrics.*
THOMAS DWIGHT, M.D., *Parkman Professor of Anatomy.*
EDWARD S. WOOD, M.D., *Professor of Chemistry.*
WILLIAM H. BAKER, M.D., *Assistant Professor of Gynaecology.*
WILLIAM B. HILLS, M.D., *Assistant Professor of Chemistry.*
WILLIAM F. WHITNEY, M.D., *Secretary, and Curator of the Anatomical Museum.*
CHARLES S. MINOT, S.D., *Assistant Professor of Histology and Embryology.*
MAURICE H. RICHARDSON, M.D., *Assistant Professor of Anatomy.*
FRANCIS H. WILLIAMS, M.D., *Assistant Professor of Materia Medica and Therapeutics.*

OTHER INSTRUCTORS.

- SAMUEL H. DURGIN, M.D., *Lecturer on Hygiene.*
CHARLES F. FOLSOM, M.D., *Lecturer on Mental Diseases.*
HENRY P. QUINCY, M.D., *Instructor in Histology.*
GEORGE B. SHATTUCK, M.D., *Instructor in Clinical Medicine.*
FRANCIS A. HARRIS, M.D., *Demonstrator of Medico-legal Examinations.*
JAMES J. PUTNAM, M.D., *Instructor in Diseases of the Nervous System.*

FREDERICK C. SHATTUCK, M.D., *Instructor in the Theory and Practice of Physic.*

EDWARD H. BRADFORD, M.D., *Instructor in Surgery.*

FRANCIS H. DAVENPORT, M.D., *Assistant in Gynaecology.*

THOMAS M. ROTCH, M.D., *Instructor in Diseases of Children.*

GEORGE M. GARLAND, M.D., *Instructor in Clinical Medicine.*

JOSEPH W. WARREN, M.D., *Instructor in Physiology.*

WILLIAM W. GANNETT, M.D., *Instructor in Pathology.*

CHARLES M. GREEN, M.D., *Instructor in Obstetrics.*

WILLIAM C. EMERSON, M.D., *Assistant in Chemistry.*

SAMUEL J. MIXTER, M.D., *Demonstrator of Anatomy.*

GEORGE H. MONKS, M.D., *Assistant in Operative Surgery.*

HERBERT L. BURRELL, M.D., *Demonstrator of Bandaging and Apparatus.*

HAROLD C. ERNST, M.D., *Demonstrator of Bacteriology.*

ROBERT W. GREENLEAF, M.D., *Assistant in Histology and Embryology.*

CHARLES HARRINGTON, M.D., *Instructor in Hygiene, and Assistant in Chemistry.*

HERMAN F. VICKERY, M.D., *Assistant in Clinical Medicine.*

OTIS K. NEWELL, M.D., *Assistant Demonstrator of Anatomy.*

WILLIAM M. CONANT, M.D., *Assistant in Anatomy.*

EDWARD REYNOLDS, M.D., *Assistant in Obstetrics.*

CHARLES W. TOWNSEND, M.D., *Assistant in Obstetrics.*

ELLIOTT G. BRACKETT, M.D., *Assistant in Materia Medica and Therapeutics.*

The following gentlemen will give special clinical instruction:—

THEODORE W. FISHER, M.D., *in Mental Diseases.*

JOHN HOMANS, M.D., *in the Diagnosis and Treatment of Ovarian Tumors.*

FRANCIS B. GREENOUGH, M.D., and ABNER POST, M.D., *in Syphilis.*

OLIVER F. WADSWORTH, M.D., *in Ophthalmoscopy.*

J. ORNE GREEN, M.D., and CLARENCE J. BLAKE, M.D., *in Otology.*

GEORGE L. WALTON, M.D., *in Diseases of the Nervous System.*

ELBRIDGE G. CUTLER, M.D., and WILLIAM W. GANNETT, M.D., *in Auscultation.*

ARTHUR T. CABOT, M.D., *in Genito-urinary Surgery.*

The Medical School is at the corner of Boylston and Exeter Streets, Boston, and the address of the Dean is Dr. H. P. BOWDITCH, Harvard Medical School, Boston.

STUDENTS.

COURSE FOR GRADUATES.

Bowen, John Templeton, A.B. 1879, M.D. 1884,	<i>Boston.</i>
Collins, Orville William, A.M. (<i>Bates Coll.</i>) 1876, M.D. 1887,	<i>So. Framingham.</i>
Goodale, Walter Temple, A.B. (<i>Bowdoin Coll.</i>) 1874, M.D. 1887,	<i>Saco, Me.</i>
Mayberry, Charles Bradford, A.M. (<i>Tufts Coll.</i>) 1884, M.D. 1887,	<i>E. Weymouth.</i>
Moran, John Brennan, M.D. 1864,	<i>Boston.</i>
Moran, Martin William, M.D. (<i>Bellevue Hosp.</i> <i>Med. Coll.</i>) 1887,	<i>Boston.</i>
Sears, Henry Francis, A.B. 1883, M.D. 1887,	<i>Boston.</i>
Thayer, Addison Sanford, A.B. 1881, M.D. (<i>Medi- cal School of Maine</i>) 1886,	<i>Portland, Me.</i>

FOURTH CLASS.

Bolton, Charles James,	<i>Somerville.</i>
Bryant, William Sohier, A.B. 1884,	<i>Boston.</i>
Byron, James Tolman,	<i>Stoneham.</i>
Carroll, Thomas Francis,	<i>Watertown.</i>
Ensworth, William Howard,	<i>E. Boston.</i>
Fox, William Yale,	<i>Taunton.</i>
O'Connor, John James,	<i>Springfield.</i>
Plummer, Henry Lincoln,	<i>E. Boston.</i>
Schaake, Frederick Henry,	<i>Lawrence.</i>
Treviño, Manuel Francisco, S.B. (<i>St. Joseph's Coll., Ky.</i>) 1884,	<i>Matamoras, Mexico.</i>

THIRD CLASS.

Abbott, Harlan Page, A.B. (<i>Brown Univ.</i>) 1885,	<i>Antrim, N. H.</i>
Anthony, Francis Wayland, A.B. 1879,	<i>Bradford.</i>
Arnold, Horace David, A.B. 1885,	<i>Newton.</i>
Blake, Harrison Gray,	<i>Woburn.</i>
Burr, Chauncey Rea, PH.B. (<i>Yale Univ.</i>) 1884,	<i>Portland, Me.</i>
Burrough, Thomas True,	<i>Roxbury.</i>
Chadbourne, Arthur Patterson, A.B. 1885,	<i>Cambridge.</i>
Chamberlain, Allen Howard, A.B. 1885,	<i>Foxcroft, Me.</i>
Clark, Franklin Haven, A.B. 1884,	<i>Boston.</i>
Clark, Horace, A.B. 1885,	<i>Somerville.</i>
Coley, William Bradley, A.B. (<i>Yale Univ.</i>) 1884,	<i>Westport, Conn.</i>
Craigin, George Arthur, A.B. 1885,	<i>Boston.</i>

Darrah, Rufus Elmer,	<i>Newport, R. I.</i>
Day, Frank Leslie, A.B. (<i>Brown Univ.</i>) 1885,	<i>Keene, N. H.</i>
Donahue, Hugh,	<i>Haverhill.</i>
Draper, Joseph Rutter, A.B. (<i>Williams Coll.</i>) 1885,	<i>Boston.</i> [N. Y.]
Dunham, Theodore, A.B. 1885,	<i>Irvington-on-Hudson,</i>
Eliot, George,	<i>Brookline.</i>
Everett, Theodore,	<i>Dover, N. H.</i>
Finney, John Miller Turpin, A.B. (<i>Princeton Coll.</i>) 1884,	<i>Bel Air, Md.</i>
Fisk, Arthur Lyman, A.B. (<i>Yale Univ.</i>)	<i>Northampton.</i>
Garceau, Edgar,	<i>Boston.</i>
Goldthwait, Joel Ernest, S.B. (<i>Mass. Agric. Coll.</i>)	<i>Marblehead.</i>
Greenwood, Allen,	<i>Waltham.</i>
Harding, George Franklin,	<i>Boston.</i>
Hare, Charles Henry, PH.B. (<i>Brown Univ.</i>)	<i>Suffield, Conn.</i>
Harrington, Thomas Francis,	<i>Lowell.</i>
Hastings, Daniel Gott, A.B. (<i>Univ. of Rochester</i>)	<i>Rochester, N. Y.</i>
Johnson, Edward Stearns,	<i>Boston.</i>
Keep, Charles Manning,	<i>Boston.</i>
Kilroy, Philip, A.B. (<i>Holy Cross Coll.</i>)	<i>Springfield.</i>
Lewis, Henry Foster, A.B. 1885,	<i>Chicago, Ill.</i>
Lincoln, Jacob Read,	<i>Millbury.</i>
Mahoney, Stephen Andrew, A.B. (<i>Holy Cross Coll.</i>)	<i>Gloucester.</i>
Mansfield, Robert Joseph, A.B. (<i>Holy Cross Coll.</i>)	<i>Springfield.</i>
Moras, Edmond Raymond,	<i>Lawrence.</i>
Morse, Charles Ellsworth,	<i>Wareham.</i>
Morse, Charles Francis, A.B. 1883,	<i>Boston.</i>
Mowry, Jesse Everett,	<i>Greenville, R. I.</i>
Mumford, James Gregory, A.B. 1885,	<i>Rochester, N. Y.</i>
Paige, John Dudley,	<i>Boston.</i>
Perkins, Fred,	<i>Manchester, N. H.</i>
Peterson, Reuben, A.B. 1885,	<i>E. Boston.</i>
Reeves, Marcellus,	<i>Boston.</i>
Remington, Frederick DeLoss,	<i>Rochester, N. Y.</i>
Robinson, Rowland Rodman,	<i>Wakefield, R. I.</i>
Stanard, Albert Cushman, B.L. (<i>Univ. of Michigan</i>) 1884,	<i>Ann Arbor, Mich.</i>
Stewart, Ferdinand Augustus, A.B. (<i>Fisk Univ.</i>) 1885,	<i>Mobile, Ala.</i>
Stone, George Arthur,	<i>Ipswich.</i>
Storer, Malcolm, A.B. 1885.	<i>Newport, R. I.</i>
Thayer, William Sydney, A.B. 1885,	<i>Cambridge.</i>
Thompson, Fred,	<i>Salem.</i>

Tilton, Edward James, A.B. 1885,	<i>Andover.</i>
Urie, John Francis,	<i>Boston.</i>
Utley, Edward Roswell, A.B. (<i>Amherst Coll.</i>) 1885,	<i>Newton.</i>
Wardwell, William Tecumseh Sherman,	<i>Boston.</i>
Welch, Edward Augustus, S.B. (<i>Wesleyan Univ.</i>) 1885,	<i>Worcester.</i>
Wentworth, Arthur Howard,	<i>Boston.</i>
Wenzlick, William, LL.B. (<i>Univ. of California</i>)	<i>San Francisco, Cal.</i>
Winn, Charles Henry, A.B. (<i>Boston Coll.</i>) 1885,	<i>Boston.</i>
Woodbury, William Richardson, A.B. (<i>Tufts Coll.</i>) 1885,	<i>Melrose.</i> [N. Y.]
Yocom, James Reed, A.B. 1885,	<i>Richmond, Staten Island,</i>

SECOND CLASS.

Aldrich, Nathaniel Borden,	<i>Fall River.</i>
Allen, Edwin Howard, A.B. (<i>Dartmouth Coll.</i>) 1885,	<i>Alfred, Me.</i>
Ahearne, Cornelius Augustus,	<i>Lynn.</i>
Andrews, Ezekiel Bennett,	<i>Freedom, N. H.</i>
Ayer, Richard Gilbert,	<i>Haverhill.</i>
Bacon, Edward Sawyer,	<i>Dover, N. H.</i>
Banks, Herbert Huntington,	<i>Barrington, N. S.</i>
Bates, Everett Alanson, A.B. (<i>Yale Univ.</i>) 1886,	<i>Danielsonville, Conn.</i>
Bolster, Percy Gardner, A.B. 1886,	<i>Roxbury.</i>
Bonney, Sherman Grant, A.B. (<i>Bates Coll.</i>) 1886,	<i>Manchester, N. H.</i>
Bowen, Horace,	<i>No. Attleboro'.</i>
Bremner, Samuel Kimball, A.B. (<i>Yale Univ.</i>) 1886,	<i>Boxford.</i>
Brown, Augustus Homer, A.B. (<i>Bowdoin Coll.</i>)	<i>Brunswick, Me.</i>
Burns, Edward Lewis,	<i>E. Somerville.</i>
Campbell, Patrick Henry,	<i>So. Boston.</i>
Carpenter, Irving Lloyd,	<i>Manchester, N. H.</i>
Carpenter, Thomas Bernard,	<i>Saxonville.</i>
Carroll, Francis Edward, A.B. (<i>Fordham Coll.</i>)	<i>Boston.</i>
Churchill, Frank Spooner, A.B. 1886,	<i>Milton.</i>
Clark, Clinton Dewey, A.B. (<i>Univ. of Rochester</i>) 1882,	<i>Haverhill.</i>
Clark, Walter Thomas, A.B. 1886,	<i>Cambridgeport.</i>
Crafts, Leo Melville, B.L. (<i>State Univ. of Minn.</i>) 1886,	<i>Minneapolis, Minn.</i>
Day, Arthur Kehew, A.B. 1886,	<i>Concord, N. H.</i>
Deal, Edward Elvin,	<i>E. Boston.</i>
Doe, Charles Cutler, S.B. (<i>Mass. Inst. of Technol.</i>)	<i>Boston.</i>

Forrest, Lawrence Francis,	<i>Cambridge.</i>
Foster, Clarendon Atwood,	<i>Bridgetown, N. S.</i>
Fuller, Daniel Hunt, A.B. (<i>Brown Univ.</i>)	<i>Providence, R. I.</i>
Giblin, Frank Joseph,	<i>So. Boston.</i>
Gibson, Charles Langdon, A.B. 1886,	<i>Boston.</i>
Gray, Charles Henry,	<i>Waltham.</i>
Grouard, John Shackford,	<i>Exeter, N. H.</i>
Heffernan, James Andrew,	<i>Cambridge.</i>
Heydecker, Henry Reading, A.B. (<i>Trinity Coll.</i>)	
1886,	<i>New York, N. Y.</i>
Holden, Eugene Martin, A.B. (<i>Bates Coll.</i>) 1884,	<i>Otisfield, Me.</i>
Huddleston, John Henry, A.B. 1886,	<i>Boston.</i>
Jelly, Arthur Carlton, A.B. 1881,	<i>Boston.</i>
Jenkins, Thomas Lincoln,	<i>Revere.</i>
Jones, Charles David, A.B. (<i>Boston Univ.</i>)	<i>Melrose.</i>
Jones, Lyman Asa, A.B. (<i>Lawrence Univ.</i>)	<i>Appleton, Wis.</i>
Kaan, George Warton,	<i>Somerville.</i>
Keleher, Francis Joseph, A.B. (<i>Boston Coll.</i>) 1886,	<i>Boston.</i>
Kelley, George Draper,	<i>Worcester.</i>
Kenefick, Joseph Aloysius,	<i>Lawrence.</i>
Kenison, Nehemiah Samuel, A.B. 1886,	<i>Allentown, N. H.</i>
Kingsley, George Lyle, A.B. (<i>Yale Univ.</i>) 1886,	<i>Rome, N. Y.</i>
Kingsley, Willey Lyon, A.B. (<i>Yale Univ.</i>) 1886,	<i>Rome, N. Y.</i>
Litch, John Goodrich,	<i>Newton.</i>
McCabe, James Edward, A.B. (<i>Holy Cross Coll.</i>)	
1886,	<i>No Chelmsford.</i>
McCarthy, Thomas Horatio,	<i>No. Easton.</i>
Mallory, Frank Burr, A.B. 1886,	<i>Cleveland, O.</i>
Milliken, Walter Louis,	<i>Boston.</i>
Moroney, William Joseph,	<i>Pawtucket, R. I.</i>
Moulton, Rufus, A.B. (<i>Colby Univ.</i>)	<i>Springvale, Me.</i>
Nichols, Edward Hall, A.B. 1886,	<i>Reading.</i>
Palmer, Franklin Sawyer, A.B. 1886,	<i>Boston.</i>
Palmer, George Monroe,	<i>Boston.</i>
Payne, James Henry, A.B. 1886,	<i>Boston.</i>
Peckham, Frank Edwin, PH.B. (<i>Brown Univ.</i>) 1885,	<i>Providence, R. I.</i>
Pelton, Clarence Whitfield,	<i>Dedham.</i>
Pinckard, Charles Philip, A.B. 1886,	<i>Cincinnati, O.</i>
Pratt, Charles Augustus, A.B. 1886,	<i>E. Somerville.</i>
Prouty, Albert Henry,	<i>No. Brookfield.</i>
Pudor, Gustave Adolph, A.B. 1886,	<i>Portland, Me.</i>
Ray, John Edward,	<i>Boston.</i>
Rogers, Albert Edward,	<i>Boston.</i>

Seelye, Ralph Holland, A.B. (<i>Amherst Coll.</i>) 1886,	<i>Northampton.</i>
Shaw, Henry Alden,	<i>Worcester.</i>
Shay, Thomas McGuire, A.B. (<i>Boston Coll.</i>) 1883,	<i>Roxbury.</i>
Slattery, John Richard, A.B. (<i>Georgetown Coll.</i>)	
1885,	<i>So. Boston.</i>
Smith, Arthur Donaldson, A.B. (<i>Univ. of Penn.</i>)	
1885,	<i>Andalusia, Pa.</i>
Smith, Edward Samuel, A.B. (<i>Holy Cross Coll.</i>)	<i>Pawtucket, R. I.</i>
Smith, William Lord, A.B. 1886,	<i>Boston.</i>
Sweeney, Hilary Tucker,	<i>E. Boston.</i>
Swett, Eddy Benjamin,	<i>W. Medford.</i>
Thayer, William Darwin,	<i>Fredonia, N. Y.</i>
Thomas, John Jenks, A.B. (<i>Williams Coll.</i>) 1886,	<i>Columbus, O.</i>
Thompson, John McQuaid, A.B. 1886,	<i>Webster.</i>
Tigh, Frederick,	<i>Danversport.</i>
Treviño, Donaciano, B.S. (<i>St. Joseph's Coll., Ky.</i>)	
1884,	<i>Matamoras, Mexico.</i>
Underhill, Charles Dudley,	<i>Chelsea.</i>
Wheaton, Robert Archibald,	<i>St. Paul, Minn.</i>
Whittemore, Frank Stowell,	<i>Sandwich.</i>
Wilbur, Hubert Granville, A.B. 1886,	<i>Fall River.</i>
Williams, William Frederic, A.B. (<i>Brown Univ.</i>)	
1883,	<i>Bristol, R. I.</i>

FIRST CLASS.

Abbot, Edward Stanley, A.B. 1887,	<i>Cambridge.</i>
Ames, John Lincoln, A.B. 1887,	<i>Jefferson, Me.</i>
Baird, Julian William, A.M., PH.C. (<i>Univ. of</i>	
<i>Mich.</i>) 1883,	<i>Boston.</i>
Bancroft, George Andrew,	<i>Lancaster.</i>
Bartol, John Washburn, A.B. 1887,	<i>Lancaster.</i>
Beaumont, William Shepard,	<i>Jamaica Plain.</i>
Blake, John Bapst, A.B. 1887,	<i>Boston.</i>
Bowker, Everett M.	<i>Brookline.</i>
Bragdon, Horace Elwood,	<i>E. Boston.</i>
Brooks, William Allen, A.B. 1887,	<i>Haverhill.</i>
Bryant, Edward Gilman,	<i>Roxbury.</i>
Bustillo, Antonio, A.B. (<i>Institute of Santander</i>)	<i>Cuba.</i>
Butler, John Edward, A.B. (<i>Amherst Coll.</i>) 1885,	<i>Jamaica Plain.</i>
Chenery, Willam Elisha, A.B. (<i>Boston Univ.</i>) 1887,	<i>Boston.</i>
Choate, Craig Cogswell, A.B. (<i>Bowdoin Coll.</i>)	
1887,	<i>Salem.</i>
Coggeshall, Frederic, A.B. 1886,	<i>Cambridge.</i>

Coolidge, Frederic Shurtleff, A.B. 1887,	<i>Boston.</i>
Cox, Benjamin Francis, A.B. 1887,	<i>Boston.</i>
Crockett, Eugene Anthony,	<i>W. Newton.</i>
Crooker, George Hazard, A.B. (<i>Brown Univ.</i>) 1887,	<i>Providence, R. I.</i>
Cummings, Irving Oscar, s.B. (<i>Dartmouth Coll.</i>) 1887,	<i>Concord, N. H.</i>
Curtis, Henry Fuller, A.B. (<i>Colby Univ.</i>) 1887,	<i>Kennebunk, Me.</i>
Curtis, John Benedict, A.B. (<i>Boston Coll.</i>) 1887,	<i>E. Cambridge.</i>
Cutler, George Washington,	<i>Waltham.</i>
Derby, William Parsons,	<i>Boston.</i>
Dudley, James Willard, A.B. 1887,	<i>Warsaw, N. Y.</i>
Duff, John, s.B. (<i>Mass. Inst. of Technol.</i>) 1881,	<i>Charlestown.</i>
Dwight, Edwin Welles,	<i>Auburndale.</i>
Faulkner, William Edward, A.B. 1887,	<i>Keene, N. H.</i>
Fenoulhet, John Henry, A.M. (<i>Cambridge Univ.</i>) 1884,	<i>England.</i>
Finn, Edward William,	<i>Dedham.</i>
Fitz, George Wells,	<i>Peconic, N. Y.</i>
Flagg, Franklin Parkinson,	<i>Woburn.</i>
Foote, Edward Milton, A.B. (<i>Univ. of Rochester</i>) 1887,	<i>Syracuse, N. Y.</i>
Fourtin, Edmund Randolph Peaslee,	<i>Wakefield.</i>
Gaveau, Ceran,	<i>Hayti.</i>
Gleason, Edwin Putnam,	<i>Needham.</i>
Grant, Herbert Lionel,	<i>Waterbury, Conn.</i>
Grimes, Warren Parker,	<i>Hillsboro' Bridge, N. H.</i>
Hall, George Clifton,	<i>Chelsea.</i>
Halpine, Andrew James,	<i>Lowell.</i>
Hendricken, Thomas Francis,	<i>Providence, R. I.</i>
Hipkiss, George,	<i>Boston.</i>
Hitchcock, Henry Russell, A.B. (<i>Brown Univ.</i>) 1884,	<i>Foxboro'.</i>
Hoover, Charles Frank, A.B. 1887,	<i>Miamisburg, O.</i>
Hosmer, Ernest Howard,	<i>Bedford.</i>
Houghton, Silas Arnold, A.B. 1887,	<i>Charlestown.</i>
Jackson, James Marsh, A.B. 1887,	<i>Roxbury.</i>
Johnson, Theodore Darwin Barton,	<i>Cambridge.</i>
Jones, Lombard Carter, A.B. 1887,	<i>Sandwich.</i>
Kelley, Stephen Augustus,	<i>Charlestown.</i>
King, William Rufus,	<i>Charlestown.</i>
Knight, Augustus Smith, A.B. 1887,	<i>Manchester.</i>
Knowlton, Herbert Eugene,	<i>Belfast, Me.</i>

Legasey, George,	Worcester.
Lothrop, Howard Augustus, A.B. 1887,	Sharon.
Lynch, William Dominic, A.B. (<i>Georgetown Coll.</i>) 1886,	New York, N. Y.
Lyons, William Henry, A.B. (<i>Holy Cross Coll.</i>) 1886,	Manchester, N. H.
Mackin, Richard Joseph, A.B. (<i>Boston Coll.</i>) 1887,	Dorchester.
McPherson, William Ellsworth,	Canton.
Mahoney, Michael Peter,	E. Providence, R. I.
Manson, John Franklin,	Ossipee, N. H.
Mitchell, Edgar Ormsby,	Newburgh, N. Y.
Moreland, David Farquhar,	Woburn.
Morgan, Lewis Edson,	Needham.
Morrill, George Albert,	Boston.
Morse, John Lovett, A.B. 1887,	Taunton.
O'Brien, John Frank, A.B. (<i>Holy Cross Coll.</i>) 1887,	Lowell.
O'Shea, Edward Flavian,	E. Boston.
Park, Francis Edwin,	Boston.
Pearson, Maurice Wellesley,	Byfield.
Percy, David Thomas,	Salem.
Pierce, Edward Elisha, A.M. (<i>Brown Univ.</i>) 1880,	Providence, R. I.
Proctor, Frank Ingersoll, A.B. 1887,	Boston.
Putnam, Willard Abram,	New Salem.
Quackenboss, Alexander, A.B. (<i>Dartmouth Coll.</i>) 1887,	Worcester.
Robinson, Thomas Johns, A.B. 1887,	E. Taunton.
Rogers, Bradlee,	Winchester.
Rolfe, William Alfred,	Chili.
Simpson, James Edwin,	E. Boston.
Snow, Wallace,	Worcester.
Stevens, John Frederic,	Sullivan, Me.
Stickney, Edwin Pangman,	Sunapee, N. H.
Straw, Amos Gale, A.B. (<i>Dartmouth Coll.</i>) 1887,	Manchester, N. H.
Strong, James Henry,	E. Boston.
Sullivan, John Francis, A.B. (<i>Mount St. Mary's Coll.</i>) 1882,	Charlestown.
Sullivan, John Henry,	Worcester.
Swan, Will Howard,	Winchester, N. H.
Tateum, Fred Thomas,	Worcester.
Taylor, John Thomson,	Brookline.
Titus, Hermon Franklin, A.M. (<i>Madison Univ.</i>) 1876,	Newton.
Tuttle, George Herman, A.B. 1887,	Milton.

Walker, Lewis Marshall,	<i>Boston.</i>
Washburne, Elliott,	<i>Taunton.</i>
Welch, Edward John, A.B. (<i>Holy Cross Coll.</i>)	
1887,	<i>Billerica.</i>
Whitmarsh, Willard Francis, A.B. (<i>Amherst Coll.</i>)	
1887,	<i>No. Abington.</i>
Wolf, Theodore Parker,	<i>Boston.</i>
Young, Henry Dudley,	<i>Boston.</i>

SUMMARY.

RESIDENT GRADUATES	8
FOURTH CLASS	10
THIRD CLASS	62
SECOND CLASS	85
FIRST CLASS	98
	<hr/>
TOTAL	263

THE MEDICAL SCHOOL.

REQUIREMENTS FOR ADMISSION.

All candidates for admission, except those who have passed an examination for admission to Harvard College, must present a degree in Letters, Science, or Medicine, from a recognized college or scientific school, or pass an examination in the following subjects :—

1. **ENGLISH.** Every candidate will be required to write, legibly and correctly, an original English composition of not less than two hundred words, and also to write English prose from dictation.

2. **LATIN.** The translation of easy Latin prose.

3. **PHYSICS.** A competent knowledge of Physics (such as may be obtained from Balfour Stewart's Elements of Physics).

4. **ELECTIVE SUBJECT.** Each candidate must pass an approved examination in any *one* of the following subjects: French, German, the Elements of Algebra or of Plane Geometry, Botany.

Whenever the candidate shall give evidence of having passed a satisfactory examination in any of the above requirements either at Harvard College or at the Lawrence Scientific School, a subsequent examination in such subject or subjects will not be demanded for his admission to the Medical School.

Candidates will be admitted conditionally who pass in two of the four subjects; but, until these conditions are made up, no student will be permitted to take part in any exercises of the third class, or present himself for examination in the subjects of that class.

The examinations will be held at the Medical School and conducted in writing; specimens of the papers used will be found in the Catalogue to be obtained of the Dean. In judging the work of the candidate, the spelling, grammar, and construction will be considered.

The examinations for admission are held on the Thursday following the last Wednesday in June, and on the Monday preceding the last Wednesday in September, beginning at 10 A.M.

In 1888 the *examinations for admission* will ALSO be held at the following places, beginning at 8 A.M. on Thursday, June 28 :—

In *Andover*, in rooms of the Phillips Academy; in *Quincy*, in rooms of the Adams Academy; in *Exeter, N.H.*, in rooms of the Phillips Exeter Academy; in *New York*, in the lecture-room of the Young Men's Christian

Association, Twenty-third St., corner of Fourth Ave.; in *Philadelphia*, in the library-hall of the Academy of Natural Sciences, S. W. corner of Nineteenth and Race Sts.; in *Cincinnati*, in the rooms of the Law School, College Building, Walnut St.; in *Chicago*, in the Hoyne School Building, corner Illinois and Cass Sts.; in *St. Louis*, in the Central High School building, corner of Olive and Fifteenth Sts.; in *San Francisco*, in rooms of the Boys' High School, on Sutter St., between Gough and Octavia Sts.; and in some convenient city in Europe, to be announced later.

DIVISION OF STUDIES.

FOUR YEARS' COURSE.

For the First Year.—Anatomy, Physiology, General Chemistry,* and Materia Medica.

For the Second Year.—Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

For the Fourth Year.—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Legal Medicine, Orthopedic Surgery, Genito-urinary Diseases, Diseases of the Rectum, Exanthemata, Hygiene, Vaccination, Bacteriology, Clinical Microscopy, and the Preparation of Food for Infants and Invalids.

THREE YEARS' COURSE.

For the First Year.—Anatomy, Physiology, General Chemistry,* and Materia Medica.

For the Second Year.—Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Legal Medicine.

* Any student who shall have previously passed in the Undergraduate department or Scientific School of Harvard University an examination in General Chemistry (including qualitative analysis) will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year. The latter privilege will be granted to students from other colleges and scientific schools who have received instruction in general chemistry equivalent in character and amount to that of the first year, on passing a satisfactory examination at the September examination, provided that satisfactory evidence of such previous study be sent to the Dean of the Faculty one month before the date of this examination.

METHODS OF INSTRUCTION.

The following methods of instruction are adopted in the several departments : —

Anatomy and Histology. — Lectures; various practical exercises, including abundant dissection, under the direction of the Demonstrator; recitations and demonstrations; histology, and embryology. The histological department has been reorganized, and the laboratories have been placed under the charge of special instructors. Laboratory instruction in the use of the microscope and in histology and embryology is offered to the first-year students. Accommodations are provided for those students who wish to pursue special or advanced courses. Facilities for original work are duly provided; students wishing to carry out any histological or embryological research receive all necessary assistance, and special efforts are made to provide material for original work. Microscopes are provided for those whose means do not permit the purchase of these instruments.

Physiology. — Lectures, recitations, conferences, and practical demonstrations in the Laboratory. To students of the second, third, and fourth classes, opportunities are given for original investigations in the Laboratory.

Chemistry is taught mainly by practical work in the Laboratory, the student having his own desk and apparatus. Descriptive Chemistry and qualitative analysis are taught during the first year. Besides the laboratory-work, there is a lecture and a recitation every week. In the second year medical chemistry is taught by lectures, recitations, and exercises in the Laboratory.

Pathological Anatomy is taught by lectures, recitations, and practical instruction in pathological histology. The collection of the Warren Anatomical Museum is used to illustrate the lectures, and morbid specimens in a fresh state are shown at the recitations, where the student is called upon to describe the appearances. Students also receive practical instruction in the method of making autopsies, being present at those made at both hospitals. The instruction in pathological histology, including the diagnosis of tumors, is continued throughout the year. Each student, provided with a microscope, the necessary instruments and reagents, prepares the various objects and submits them for explanation and criticism. The formation of small classes for special work and the individual pursuit of original investigations are encouraged.

The school possesses a large number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

Materia Medica and Therapeutics. — *Materia Medica* is taught by lectures and recitations with exhibition of medicines and pharmaceutical processes. Besides the large and complete cabinet of *materia medica* in

the Museum, a collection of officinal drugs and chemicals, and of all the important preparations is placed where it can be seen by the students at any time. The physiological action of drugs and their application to disease is taught in the third year by a course of lectures upon Therapeutics and by recitations and demonstrations.

The Theory and Practice of Medicine. — Lectures, recitations, and hospital visits.

Clinical Medicine. — Daily instruction is given in this department by hospital visits and other exercises. Students are furnished with cases for personal examination, and are called upon to report them before the class, where they are criticised. These examinations are held both in the wards and in the amphitheatre. Another exercise, known as the clinical conference, affords an opportunity for more thorough preparation of cases, more time being allowed for their study. The full written report of a case is read by the student who has examined it. It is afterwards criticised by the class, by the Assistant Professor of Clinical Medicine, and other teachers in the School. In addition to this, a regular course of supplementary instruction is given in Auscultation and Percussion, and in Laryngoscopy, which affords students an abundant opportunity for acquiring a thoroughly practical knowledge of these methods of exploration.

Surgery. — Lectures and recitations. There are also courses on Surgical Anatomy, Minor Surgery, Orthopedic Surgery, Surgical Histology, Bandaging, and Operative Surgery. In the last, students of the third and fourth classes are supplied with material for repeating the usual surgical operations.

Clinical Surgery. — Instruction in Clinical Surgery is given at the Massachusetts General Hospital and City Hospital, each week throughout the year, as follows:—

One clinical conference, one clinical lecture, two visits in the hospital wards, and two public operating days.

The surgical clinical conference is an exercise at which a student of the third class presents an elaborate and carefully prepared paper on a surgical case in the hospital wards, which has been assigned him. This paper he is obliged to read in the amphitheatre of the Hospital before the whole class, and defend it from their criticism. At the close of the exercise the Professor of Clinical Surgery gives a résumé of the case and his opinions upon it. The students of the second class attend these exercises preparatory to their active participation in them in their third year.

The clinical lecture is given either over surgical cases brought into the amphitheatre and illustrated by explorations or operations, or at the bedside in the wards illustrating the dressing of wounds, the treatment of fractures, and the progress of cases from entrance to discharge from the

Hospital. Every candidate for a degree is required to report a case in clinical surgery.

Obstetrics. — Lectures and recitations. Students are required to take charge of cases of obstetrics in their third year. A course on operative obstetrics, with practical illustrations on the cadaver, is given during the second half-year.

Diseases of Women. — Lectures, recitations, and practical instruction at the different dispensaries in the education of the touch. In these institutions every facility is given the student to become familiar with the different forms of uterine disease. A course in operative gynaecology extending throughout the year at the Free Hospital for Women is open to students of the third and fourth classes. To students of the fourth class and to post-graduates cases are assigned for personal examination; these cases are reported in full at the clinical conference, and are made the subject of discussion by members of the class and the instructor. These students are also called upon to assist at the operations in the operative course.

Diseases of Children. — Lectures and clinical instruction.

Ophthalmology. — A complete course is delivered upon the diseases of the eye, including clinical instruction and the use of the ophthalmoscope.

Dermatology is taught by lectures and clinical illustrations. The special out-patient department at the Massachusetts General Hospital furnishes ample opportunities for illustration.

Syphilis. — Recitations and clinical instruction.

Otology. — Lectures and clinical instruction.

Laryngology. — Lectures and demonstrations.

Diseases of the Nervous System. — Lectures and demonstrations.

Legal Medicine. — Lectures, recitations, and demonstrations.

Embryology and Histology. — Lectures.

Hygiene. — Lectures and demonstrations.

TEXT-BOOKS.

The following works are recommended as text-books, and for collateral reading and consultation:—

ANATOMY.

Text-Books. — Gray (11th edition). Quain (9th edition). Wilson. Holden's Landmarks. Dwight's Frozen sections of a Child. Treves' Applied Anatomy. Stöhr's Lehrbuch der Histologie.

Collateral Reading — Harrison Allen's Anatomy. Tillaux, Anatomie topographique. Dwight's Anatomy of the Head. Holden's Osteology. Humphrey's Human Skeleton. Morris, on the Joints. Klein's Atlas of Histology. Foster and Balfour's Embryology. Weisse's Practical Human Anatomy. Klein's Histology. Whitman's Methods in Microscopic Anatomy. Carnoy's Biologie cellulaire. Haddon's Introduction to Embryology.

PHYSIOLOGY.

Text-Books.—Dalton's Human Physiology. Foster's Text-book of Physiology. Martin, The Human Body. Kirke's Handbook of Physiology.

Collateral Reading.—Pavy, on Food and Dietetics. Fick, Compendium der Physiologie. Gamgee's Physiological Chemistry of the Animal Body. McGregor-Robertson's Elements of Physiological Physics. Landois' Manual of Human Physiology.

GENERAL CHEMISTRY.

Text-Books.—Bartley's Medical Chemistry.

Collateral Reading.—Miller's, Roscoe and Schorlemmer's, or Fownes' Chemistry. Douglass and Prescott's, or Fresenius' Qualitative Analysis.

MEDICAL CHEMISTRY.

Text-Books.—Tyson, Practical Examination of Urine. Wharton and Stillé's Medical Jurisprudence, Vol. II., on Poisons, 4th edition.

Collateral Reading.—Ultzmann and Hoffmann's Atlas der Harnsedimente. Neubauer and Vogel, Analysis of the Urine. Hoppe-Seyler, Physiologische Chemie. Taylor on Poisons. Wormley's Micro-Chemistry of Poisons.

MATERIA MEDICA.

Text-Books.—Brunton's Pharmacology, Therapeutics, and Materia Medica. Edes' Materia Medica and Therapeutics. Bruen, Management of Diet.

Collateral Reading.—H. C. Wood's Therapeutics. Ringer's Therapeutics. Binz, Vorlesungen über Pharmakologie.

PATHOLOGICAL ANATOMY.

Text-Books.—Ziegler's Pathological Anatomy and Pathogenesis. Orth's Compend of Diagnosis in Pathological Anatomy.

Collateral Reading.—Friedlaenders Use of the Microscope in Clinical and Pathological Examinations. Coats's Manual of Pathology.

THERAPEUTICS.

Text-Books.—H. C. Wood's Therapeutics. Chamber's Manual of Diet.

Collateral Reading.—Stillé's Therapeutics and Materia Medica. Bartholow's Materia Medica and Therapeutics. Ringer's Therapeutics.

OBSTETRICS.

Text-Books.—Lusk's Manual of Midwifery.

Collateral Reading.—Schroeder's Manual of Midwifery. Cazeaux's Midwifery. Winckel's Diseases of Childbed. Schauta's Grundriss der operativen Geburtshilfe. Kucher's Puerperal Convalescence.

THEORY AND PRACTICE.

Text-Books.—Strümpell's Text-Book of Medicine.

Collateral Reading.—Pepper's System of Practical Medicine by American authors. Flint's Practice of Medicine. Cutler and Garland's Percussion Outlines.

CLINICAL MEDICINE.

Text Books.—Flint's Practice of Medicine. Flint's Manual of Percussion and Auscultation.

Collateral Reading.—Same as in Theory and Practice.

SURGERY.

Text-Books. — Bryant's Practice of Surgery. Billroth's Surgical Pathology. Smith's Operative Surgery.

Collateral Reading. — Holmes's System of Surgery. The International Encyclopedia of Surgery. Van Buren and Keyes's Genito-urinary Organs and Syphilis. Guérin, *Éléments de Chirurgie Opératoire*.

GYNAECOLOGY.

Text-Books. — Thomas, on the Diseases of Women. Fifth Edition.

Collateral Reading. — Emmet's Principles and Practice of Gynaecology. Klob's Pathological Anatomy of the Female Sexual Organs. Savage, The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs.

OPHTHALMOLOGY.

Text-Books. — Williams, Soelberg Wells, Nettleship, Zehender. Loring, on the Ophthalmoscope. Landolt, on Refraction and Accommodation.

INSTRUCTION FOR 1887-88 TO STUDENTS OF THE THREE YEARS' COURSE.

Anatomy.

Descriptive Anatomy. *Four times a week.* Professor DWIGHT.

Practical Anatomy, with Exercises in Dissection. *Eight hours daily from October 15th till May.* Demonstrations and Recitations. Assistant Professor M. H. RICHARDSON, and Drs. MIXTER, NEWELL, and CONANT.

Topographical and Advanced Anatomy. *Once a week.* Professor DWIGHT. Topographical and Applied Anatomy. *From November till May.* Assistant Professor M. H. RICHARDSON.

Laboratory Exercises in Histology. *Twice a week.* Assistant Professor C. S. MINOT, and Dr. QUINCY.

Histology. *Once a week during the first half-year.* Assistant Professor C. S. MINOT. Embryology. *Eight lectures during the second half-year.* Assistant Professor C. S. MINOT.

Physiology.

Systematic and Experimental Physiology. *Four times a week.* Professor BOWDITCH.

Laboratory Exercises in Experimental Physiology. *Twice a week.* Dr. J. W. WARREN.

Chemistry.

Descriptive and Analytical Chemistry. *Twice a week, with an additional weekly exercise during the first ten weeks.* Assistant Professor HILLS.

Medical and Toxicological Chemistry. *Twice a week.* Professor WOOD. Practical Exercises in the Laboratory in Analytical and Medical Chemistry. *Daily.* Professor WOOD, Assistant Professor HILLS, and Drs. EMERSON and HARRINGTON.

Materia Medica and Therapeutics.

Materia Medica, with the Exhibition of Drugs. *Twice a week during the second half-year.* Assistant Professor F. H. WILLIAMS.

Therapeutics, with Demonstrations. *Twice a week.* Recitations. *Once a week.* Assistant Professor F. H. WILLIAMS.

Hygiene.

Lectures and Demonstrations. *Once a week during the second half-year.* Dr. HARRINGTON.

Pathology and Pathological Anatomy.

General Pathology and Pathological Anatomy. *Twice a week.* Professor FITZ.

Special Pathological Anatomy, with Demonstrations. *Twice a week.* Professor FITZ.

Laboratory Exercises in Pathological Histology. *Twice a week.* Drs. WHITNEY and GANNETT.

Practical Instruction in Performing Autopsies. *Throughout the year.* Professor FITZ and Dr. GANNETT.

Surgery.

Surgery. *Once a week.* Professor CHEEVER.

Surgical Pathology. *Once a week till January.* Professor J. C. WARREN.

Surgical Conference. *Once a week from November till May.* Professor PORTER.

Clinical Surgery. Lectures. *Once a week till January.* Professor CHEEVER. *Once a week from January till March.* Professor PORTER. *Once a week from March till June.* Professor J. C. WARREN.

Operative Surgery and Surgical Anatomy. Illustrative Exercises. *Twice a week in March and April.* Professor PORTER.

Operative Surgery, *Fifteen practical exercises.* Professor PORTER assisted by Dr. MONKS.

Recitations in Surgery and Surgical Pathology. *Once a week.* Professor J. C. WARREN.

Application of Bandages and Apparatus. *Laboratory exercises to the class in sections, after February.* Professor J. C. WARREN and Dr. BURRELL.

Surgical visits are made at the Massachusetts General Hospital by Professors PORTER and J. C. WARREN, Assistant Professor M. H. RICHARDSON, and Drs. BEACH, HOMANS, and CABOT. — At the City Hospital, by Professor CHEEVER and Drs. GAY, BOLLES, BRADFORD, POST, and GAVIN. — The Surgical Cases at the Eye and Ear Infirmary and at the Boston Dispensary are shown by the surgeons in charge.

Ophthalmology.

Diseases of the Eye. *Twice a week during the first half-year.* Professor H. W. WILLIAMS.

Clinical Ophthalmology. *Once a week till January, and after March.* Professor H. W. WILLIAMS.

Dermatology.

Diseases of the Skin. *Once a week.* Professor WHITE.

Clinical Dermatology. *Once a week.* Professor WHITE.

Syphilis.

Practical Diagnosis and Treatment of Syphilis. *Once a week for a half-year.* Dr. POST.

Otology.

Otoscopy. *Once a week in November.* Dr. BLAKE.

Clinical Otology. *Once a week from November till April.* Drs. J. O. GREEN and BLAKE.

Special Pathology and Therapeutics.

Theory and Practice of Physic. *Twice a week.* Professor F. MINOT.
Recitations. *Twice a week.* Dr. F. C. SHATTUCK.

Clinical Medicine. *Twice a week.* Assistant Professor WHITTIER.

Clinical Conference. *Once a week.* Assistant Professor WHITTIER, and Drs. GARLAND, G. B. SHATTUCK, and VICKERY.

Practical Instruction in Auscultation and Percussion. *Five times a week during the first half-year.* Drs. GARLAND, CUTLER, and GANNETT.

Practical Diagnosis and Treatment of Diseases of the Larynx. *Six times a week, first half-year.* Assistant Professor KNIGHT.

Practical Diagnosis and Treatment of Diseases of Children. *Twice a week.* Dr. ROTCH.

Practical Diagnosis and Treatment of Diseases of the Nervous System. *Once a week.* Dr. PUTNAM.

Mental Diseases. *Once a week.* Dr. FISHER.

Legal Medicine. *Twenty-four lectures.* Assistant Professor DRAPER.

Medical visits are made at the Massachusetts General Hospital by Professors FITZ and W. L. RICHARDSON, Assistant Professor WHITTIER, and Drs. ABBOT, TARBELL, and F. C. SHATTUCK. — At the City Hospital, by Drs. J. G. BLAKE, LYMAN, DOE, MASON, SUMNER, G. B. SHATTUCK, FORSTER, FOLSOM, and DENNY. — At the Danvers, South Boston, and Somerville Asylums for the Insane. — The Medical Cases at the Boston Dispensary are shown by the physicians in charge.

Obstetrics.

Theory and Practice of Obstetrics. *Twice a week.* Professor W. L. RICHARDSON. Recitations. *Once a week.* Dr. C. M. GREEN.

Operative Obstetrics. *Twelve practical exercises.* Dr. C. M. GREEN.

Practical Instruction in Clinical Obstetrics. *Throughout the year.* Dr. C. M. GREEN.

Gynaecology.

Twice a week. Assistant Professor BAKER. Two clinics each week during the second half-year. Assistant Professor BAKER. Two clinics each week during the first half-year. Dr. DAVENPORT.

INSTRUCTION FOR 1887-88 TO STUDENTS OF THE FOURTH YEAR.**Clinical Medicine.**

Twice a week for one month. Professor FITZ. *Once a week for four months.* Dr. G. B. SHATTUCK. *Once a week for four months.* Dr. F. C. SHATTUCK. *Twice a week for two months.* *Once a week for five months.* Dr. GARLAND. *Once a week for two months.* Dr. ABBOT. *Twice a week for two months.* *Once a week for two months.* Dr. TARBELL. *Once a week for five months.* Dr. GANNETT. *Once a week for one month.* *Twice a week for one month.* Dr. CUTLER. *Once a week for two months.* Dr. VICKERY.

Diseases of Children.

Twice a week for eight months. Dr. ROTCH. *Five times a week for two months.* Drs. ROTCH and BUCKINGHAM.

Diseases of the Nervous System.

Four times a week for three months. *Twice a week for two months.* Dr. PUTNAM.

Mental Diseases.

Once a week for four months. Dr. FISHER. *Once a week for two months.* Dr. COWLES.

Surgery.

Clinical Surgery. *Once a week for two months.* Professor CHEEVER. *Once a week for four months.* Professor PORTER. *Once a week for four months.* Professor J. C. WARREN. *Twice a week for one month.* Assistant Professor M. H. RICHARDSON. *Twice a week for three months.* Dr. BEACH. *Twice a week for two months.* Dr. GAY. *Once a week for four months.* Dr. BOLLES. *Twice a week for four months.* Dr. BURRELL. *Twice a week for one month.* Dr. ELLIOT. *Once a week for*

two months. Dr. WATSON. *Once a week for three months.* Dr. WEST. *Once a week for one month.* Dr. MIXTER. *Once a week for one month, twice a week for two months.* Dr. F. B. HARRINGTON.

Operative Surgery. *Practical Exercises.* Professor PORTER, Assistant Professor M. H. RICHARDSON, and Drs. MIXTER and MONKS.

Orthopedic Surgery. *Twice a week for three months.* Dr. BRADFORD.

Ovarian Tumors.

Once a week for two months. Dr. HOMANS.

Obstetrics.

Clinical Obstetrics. *Twice a week for five months.* Professor W. L. RICHARDSON.

Operative Obstetrics. *Practical Exercises.* Dr. C. M. GREEN.

Gynaecology.

Once a week (two hours) for eight months. Assistant Professor BAKER. *Twice a week for two months. Once a week for one month.* Dr. DAVENPORT. *Twice a week for six months; once a week for two months.* Dr. STRONG. *Once a week for three months.* Dr. LYMAN. *Once a week for five months.* Dr. DOE. *Twice a week for two months.* Dr. SWIFT. *Twice a week for two months.* Dr. ELLIOT.

Operative Gynaecology. *Practical Exercises.* Assistant Professor BAKER.

Dermatology.

Three times a week for eight months. Professor WHITE.

Syphilis.

Once a week for eight months. Dr. GREENOUGH.

Ophthalmology.

Twice a week for five months. Professor H. W. WILLIAMS. *Twice a week for four months.* Dr. WADSWORTH.

Otology.

Twice a week for three months. Dr. C. J. BLAKE. *Twice a week for six months.* Dr. J. O. GREEN.

Laryngology.

Four times a week for three months. Assistant Professor KNIGHT.

Diseases of the Genito-Urinary Apparatus.

Once a week for four months. Dr. CABOT. *Once a week for four months.* Dr. WATSON. *Once a week for three months.* Dr. TILDEN.

Diseases of the Rectum.

Once a week for eight months. Dr. HODGES.

Legal Medicine.

Once a week for eight months. Assistant Professor DRAPER. *Demonstrations.* Dr. HARRIS.

Hygiene.

Twice a week for two months. Dr. DURGIN.

Vaccination.

Once a week for one month. Dr. DURGIN.

Bacteriology.

Once a week for four months. Dr. ERNST.

Clinical Microscopy.

Once a week for four months. Professor FITZ and Dr. WHITNEY.

Cookery.

Twice a week (two hours) for one month. Boston Cooking School.

CLINICAL ADVANTAGES.

The Medical Department of the University is established in Boston, in order to secure those advantages for Clinical Instruction and for the study of Practical Anatomy which are found only in large cities.

There are Hospital visits or operations daily.

The Massachusetts General Hospital. — During the past year, 2,756 patients were treated in the wards, and 17,925 in the out-patient departments. Patients are received from all parts of the United States and the Provinces, and are visited by the students, with the attending physicians and surgeons, on four days in the week. Operations are numerous, and are performed in the amphitheatre, which is provided with seats for 400 persons. Clinics in the following special branches have been established in connection with the out-patient department: Dermatology, Laryngology, Diseases of the Nervous System, and Ophthalmology.

The City Hospital. — During the past year, 5,368 cases were treated in its wards, and 12,733 in its various out-patient departments. The medical wards always contain many cases of acute diseases, and changes are taking place constantly. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds are excellent, since, on an average, 800 street accidents are yearly treated. Surgical operations are performed in the amphitheatre. Diseases of the eye, the ear, and the skin are largely treated in the out-patient department. Clinical instruction is given by the physicians and surgeons twice a week.

In these two hospitals, the facilities for witnessing Operative Surgery are unsurpassed. Twice a week operations are performed in the presence of the class. The number of these operations is large, reaching

nearly two thousand a year. The variety is great, embracing every surgical disease and injury, including the surgical operations on the eye and ear.

The Boston Dispensary. — 42,488 patients were treated at this Public Charity during the past year. A new building has lately been erected at a cost of \$50,000, where students have ample and excellent opportunity for seeing practical work in the diagnosis and treatment of cases illustrating the various branches of medicine and surgery.

The Massachusetts Charitable Eye and Ear Infirmary. — The nine thousand patients annually treated at this institution present every variety of disease of the ear and eye, and supply a large number of operations.

The Marine Hospital at Chelsea receives from the shipping of the port a large number of patients, who furnish examples of the diseases of foreign countries and of distant parts of the United States. Many cases of venereal disease, in its various forms, are treated annually.

The Free Hospital for Women. — In the wards of this institution, which is devoted exclusively to the diseases peculiar to women, abundant opportunity is offered to study the severer forms of uterine disease and to witness operations, which are performed once a week throughout the year.

Students are also permitted to visit the Children's Hospital and the Carney Hospital on application to the physicians on duty.

There are twenty-five appointments annually for Internes in the various hospitals, and as many more for Assistants in the out-patient departments. Appointments for the Massachusetts General and City Hospitals are for the term of eighteen months, for the Boston Lying-in Hospital for four months, and for the Free Hospital for Women for nine months.

EXAMINATIONS.

The regular examinations are conducted in writing and orally, and are held at the end of each year in June, and a week before the opening of the School in September, on the studies of the preceding year.* They are held in the following order: —

At the End of the First Year. — Anatomy, Physiology, General Chemistry,† and Materia Medica.

End of Second Year. — Anatomy, Medical Chemistry, and Pathological Anatomy.

End of Third Year. — Therapeutics, Obstetrics,‡ Theory and Practice of Medicine, and Surgery.‡

* The June examination is for those only who are members of the School at the time, and for those entitled to apply for the degree.

† See foot-note on page 211.

‡ The examinations in Obstetrics and Surgery may be passed at the end of the fourth year if preferred.

End of Fourth Year. — Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, and Legal Medicine.

In addition to the above examinations each student is required to present a satisfactory report of the analysis of a solution containing inorganic substances, and of a specimen of urine, to examine and report upon a clinical case in Medicine and Surgery, and to take charge of and report upon three cases in Obstetrics; each student must also have satisfactorily dissected the three parts of the body.

Students attending the four years' course may be examined at the end of the third or fourth year, as preferred, in Clinical Medicine, Clinical Surgery, and Obstetrics. The examinations of the first two years are common to both groups of students. The final examinations at the close of the three years' course are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, and Clinical Medicine.

No student is allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty. Those who fail in any subject may again present themselves in that subject at the next regular examination.

All students are required to notify the Secretary in writing of their intention to present themselves for examination, either in June or September, one month before such examination is to be held.

The regular examinations for the year 1887-88 will begin June 4 and September 24.

The following was the order of the examinations held in June, 1887:—

Monday (June 6), Therapeutics; *Tuesday*, Ophthalmology, Otology, Laryngology, and Syphilis; *Wednesday*, Surgery; *Thursday*, Clinical and Operative Obstetrics, Diseases of Children, and Diseases of Women; *Friday*, Anatomy; *Saturday*, Obstetrics; *Monday* (June 13), Clinical Medicine; *Tuesday*, Dermatology, Operative Surgery, and Clinical Surgery; *Wednesday*, Pathological Anatomy; *Thursday* Diseases of the Nervous System, Mental Diseases, and Legal Medicine; *Friday*, General Chemistry; *Saturday*, Theory and Practice; *Monday* (June 20), Medical Chemistry; *Tuesday*, Materia Medica; *Wednesday*, Advanced Anatomy; *Thursday*, Physiology.

DIVISION OF STUDENTS.

Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students

following the three years' course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory * certificate of time spent in medical studies. No student may advance with his class, or be admitted to advanced standing, until he has passed the required examinations in the studies of the previous year, or a majority of them; nor may he become a member of the third class, until he has passed all the examinations of the first, in addition to a majority of those of the second year, or of the fourth class, until he has passed all of the examinations of the first and second, in addition to a majority of those of the third year.

In order that the time of study shall count as a full year, students of all classes must present themselves within the first week of the School year and register their names with the Secretary.

Students who do not intend to offer themselves for a degree will, however, be received for any portion of the course.

Any student may obtain a certificate of his period of connection with the School.

LIBRARIES.

The students have access, free of charge, to the books belonging to the library of the School and to the libraries of the several departments.

The College Library at Cambridge is open to the students of the Medical School.

The Boston Public Library, which contains a large collection of medical books is open to students who are inhabitants of Boston. Students, not inhabitants of Boston, who have filed a bond at the Treasurer's office, or deposited with the Treasurer the sum of fifty dollars, may also use this library.

REQUIREMENTS FOR THE DEGREE.

Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three or four full years; have spent at least one continuous year at this School; and have passed the required examinations.

* Certificates from teachers who practise any peculiar or exclusive system of medicine are not accepted. The following is the form of certificate required:—

“This certifies that — has studied medicine under my personal instruction for — months from — 188— to — 188—.”

After Sept. 1, 1889, no certificate of time spent in medical study will be accepted except from a recognized Medical School.

The course of study recommended by the Faculty covers four years; but, until further notice, the Degree of Doctor of Medicine will be given as heretofore, upon the completion of three years of study, to applicants who have passed satisfactorily the above requirements.

The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of seventy-five per cent* upon all the examinations above stated. A certificate of attendance on the studies of the fourth year will be given to such graduates as have attended the course, and have passed a satisfactory examination in the studies of the same.

The presentation of a thesis is not a requirement for graduation, but candidates for the degree of M.D. may present a voluntary thesis. If of conspicuous merit, it will receive honorable mention; if also of a suitable character, it may be read at the University Commencement exercises. Theses must be completed and delivered to the Dean on or before the first day of June.

The degree of Master of Arts is open to graduates of the School who are also Bachelors of Arts of Harvard College, and to Bachelors of Arts of other Colleges who shall be recommended by the Faculty of Harvard College. Candidates must pursue an approved course of study in Medicine for at least one year after taking the degree of Doctor of Medicine. Students who have taken the four years' course, and have passed the examinations "with high credit," may obtain the degree of Master of Arts by presenting their applications to the Faculty on or before the first of June in the year of their final examinations.

ANATOMICAL PRIZE.

Professor C. B. PORTER offers a prize of fifty dollars, open to all students, and graduates of not more than five years' standing, except teachers of anatomy, for the best dissection deserving the award illustrative of surgical anatomy, the specimen to be presented to the Museum.

PECUNIARY AID.

Four yearly scholarships, of the value of \$200 each, have been established by the Faculty, and are open to meritorious students who have been at the School for at least one year. The two Barringer scholarships, of the value of \$300 and \$200 respectively, will be awarded to deserving students, preferably those of the fourth class. Only those needing assistance are expected to apply; and of such, those holding the highest rank will have the preference.

* In computing averages all examinations will be reduced to a basis of three hours.

FEES AND EXPENSES.

For matriculation, five dollars; for a year, two hundred dollars, (if in two payments, at the first, one hundred and twenty dollars; at the second, eighty dollars); for a half-year alone, one hundred and twenty dollars; for graduation, thirty dollars. During the first two years there are the following additional expenses: Two dollars for each of the three parts required for dissection; and six dollars per year for chemical material, in addition to the charge for breakage of glass apparatus. Of students who do not pay in advance, a bond for \$300, executed by two sufficient bondsmen, one of whom must be a citizen of the United States, is required. A copy of such bond will be sent, on application to the Secretary of the Faculty, and all students are recommended to deposit such a bond. To students depositing bonds, term-bills will be presented one week before the end of the first term, to be paid within two weeks; and also one week or more before Commencement, to be paid on or before the beginning of the next academic year. Such students will be held responsible for the payment of fees until they have notified the Dean of their intention to withdraw from the School, and have subsequently received their bond from the Treasurer.* Whenever a student is obliged to withdraw from the School before the last four weeks of a half-year for no misdemeanor, but for good and sufficient reason, to be determined in all cases by the Faculty, it shall be recommended that he be entitled to a remission of three-fourths of the amount due for that portion of the time during which he receives no instruction—this remission to date from the reception by the Dean of a written notice of the student's withdrawal from the School. No degree can be conferred till all dues to the School are discharged. The student's general expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The janitor of the Medical School will always have a list of boarding-houses in the vicinity of the School building, varying in their rates of charges from five to ten dollars a week.

COURSE OF STUDY FOR GRADUATES.

For the purpose of affording to those who are already graduates in medicine additional facilities for pursuing clinical, laboratory, and other studies, for which they had not previously found leisure, in such subjects as may especially interest them, and as a substitute in part for the opportunities heretofore sought in Europe, the Faculty have established a post-graduate course, of which the following is a programme. The fee in each branch is for a single half-year.

* The Treasurer's office is at 50 State St., Boston.

Anatomy. — Opportunities for advanced study and for special investigations. Fee, \$30.

Histology. — The various methods of examining the different tissues are employed, and opportunities for original research are offered. Fee, \$20.

Physiology. — Opportunities for original investigation in the Physiological Laboratory. Fee, \$30.

Medical Chemistry. — Practical instruction in the Chemical Laboratory, in the analysis of the urine and other animal fluids in health and disease, and of poisons; examination of blood-stains and other objects connected with medico-legal investigations, with the application of the microscope to these processes. General analysis, also, if desired. Laboratory-fee, \$30.

Hygiene. — Practical instruction in the Laboratory in the examination of water, air, articles of food and drink for the detection of adulteration, soils, etc., and opportunities for special work are offered. Laboratory-fee, \$25.

Pathological Anatomy. — Instruction in Pathological Histology and the examination of specimens in the Microscopical Laboratory. Practice in making post-mortem examinations. Fee, \$20.

Bacteriology. — Practical instruction in the Laboratory. Fee, \$15.

Surgery. — A practical course of operative surgery, and instruction in the application of bandages and apparatus. Fee, \$25.

Laryngology. Lectures and clinical exercises. Fee, \$20.

Ophthalmology. — Clinical instruction, lectures on diseases of the eye, and demonstrations of the methods of performing operations. Exercises in the use of the ophthalmoscope. Fee, \$25.

Otology. — Lectures and clinical instruction in diseases of the ear. Fee, \$15.

Dermatology. — Clinical instruction in diseases of the skin, illustrated by patients in this department of the Massachusetts General Hospital. Lectures. Fee, \$25.

Syphilis. — Clinical instruction at the Boston Dispensary. Fee, \$15.

Diseases of the Nervous System. — Lectures and practical instruction in the diagnosis and treatment of diseases of the nervous system. Fee, \$15.

Gynaecology. — Clinical instruction in diseases of women, and a practical course of operative gynaecology. Fee, \$25.

Obstetrics. — Cases supplied, and clinical instruction given. A course on operative obstetrics. Fee, \$25.

Diseases of Children. — Lectures and clinical instruction. Fee, \$25.


Those pursuing this course may elect the studies to which they will give their attention, and allot the time they will devote to each. They will be exempt, unless at their option, from examinations, and may obtain a certificate of attendance on this course of advanced study. On payment of the full fee for the course, they will have the privilege of attending

any of the other exercises of the Medical School, the use of its laboratories and library, and all other rights accorded by the University.

Graduates of other medical schools may obtain the degree of M.D. at this University, after a year's continuous study in this School. The required examinations are those of the three years' course, and may be passed in such order as is desired, but only at the stated seasons.

The fee for a year is	\$200
“ for a half-year	\$120

For any of the special courses, such fees as are above specified.
For further information or catalogue, address Dr. H. P. BOWDITCH,
Dean, Harvard Medical School, Boston, Mass.

 The Medical School is on Boylston Street, Boston.

BOYLSTON MEDICAL PRIZES.

These prizes, open to public competition, are offered annually for the best dissertations on questions in medical science proposed by the Boylston Medical Committee.

For 1888 two prizes are offered :—

1. A prize of four hundred and fifty dollars for the best dissertation embodying *The Result of Original Work in Anatomy, Physiology or Pathology*. The subject to be chosen by the writer.

2. A prize of one hundred and fifty dollars for the best dissertation on *Pneumonia in its relation to Affections of the Nervous System*.

Dissertations on these subjects must be sent post-paid to W. F. WHITNEY, M.D., Harvard Medical School, Boston, Mass., on or before *Wednesday, April 4, 1888*.

For 1889 two prizes are offered :—

1. A prize of two hundred dollars for the best dissertation on the question, *May the cause of Typhoid Fever in the Human species originate in Animals other than Man?*

2. A prize of one hundred and fifty dollars for the best dissertation on *The Effect of Desiccation on the life of Animal and Vegetable Tissues*.

Dissertations on these subjects must be sent to the same address as above on or before *Wednesday, April 3, 1889*.

In awarding these prizes preference will be given to dissertations which exhibit original work, but if no dissertation is considered worthy of a prize, the award may be withheld.

Each dissertation must bear in place of its author's name some sentence or device and must be accompanied by a sealed packet bearing the same sentence or device and containing within the author's name and residence. *Any clew by which the authorship of a dissertation is made known to the committee will debar such dissertation from competition.*

Dissertations must be written in a distinct and plain hand, and their pages must be bound in book form.

All unsuccessful dissertations are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.

By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2. That in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The Boylston Medical Committee is appointed by the President and Fellows, and consists of the following physicians:— GUSTAVUS HAY, M.D., *President*, ROBERT T. EDES, M.D., SAMUEL G. WEBBER, M.D., H. P. BOWDITCH, M.D., FRANK W. DRAPER, M.D., J. COLLINS WARREN, M.D., EDWARD S. WOOD, M.D., WILLIAM F. WHITNEY, M.D., *Secretary*, F. H. WILLIAMS, M.D.

The address of the *Secretary* is WILLIAM F. WHITNEY, M.D., Harvard Medical School, Boston, Mass.



The following tabular view illustrates the distribution of studies throughout the year.

1887-88, FROM SEPTEMBER 29 TO JUNE 30.

First Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	† Embryol. L. † Histology.		* Practical Physiol.	Histology.	† Materia M.	
10	† Materia M., L.	Histology. Laboratory.	Physiol. L.	Laboratory.	* Anatomy, R.	Physiol. R.
11	Physiol. L. or Cont.	Physiol. L.	Chemistry, R.	Chemistry, L.	Physiol. L.	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Chemis. R. or L. 1st 10 w. * Pract. Physiol. </div>
12	Anatomy, L.	Anatomy L.	Anatomy, L.		Laboratory. † Hygiene, L.	
2	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
3	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
4		Laboratory.	Laboratory.	Laboratory.	Laboratory.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* In sections.

† During first half year.

‡ During second half year.

Second Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	† Bandaging.	† Bandaging.	† Bandaging.	† Bandaging.	† Bandaging.	† Bandaging.
9	Clin. Med. M.	Clin. Med. C. D.	Clin. Med. L. M.		Clin. Med. C. D.	
10	† Laryngo'py. M. 10.30 Clin. Sur. after Dec.	† Laryngo'py. Clin. Surg. C.	† Laryngo'py. Laboratory.	† Laryngo'py. Laboratory.	† Laryngo'py. C. Surg. Visit.	† Laryng'py M. Surg. Visit.
11	* Auscultation M. and D.	* Auscultation Laboratory.	* Auscultation	* Auscultation	* Auscultation C. Operations.	* Auscult. M. Operations.
12	Laboratory.		Surg. Conf. M.		Pathology, L.	Museum.
2	Chemistry, L.	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Path. Histology. </div>	Chemistry, R.	Bact'y. 6 L.	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Path. Histology. </div>	
3	Pathology. R. & Dem.		Pathology, L.	Pathology. Dem. & R.		
4	Theo. & Pr. R.	Surgery, R.	Theo. & Pr. R.	Adv. Anat. L.	Clin. Conf.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* Till February in sections.

† Till January in sections.

‡ After February.

At five o'clock, practical exercises in anatomy, in which all classes may take part, will be conducted by the Demonstrator.

Clinical Surgery at M. & C. in sections, of which due notice will be given.

Third Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Fr'day.	Saturday.
9	Clin. Med. M.	Clin. Med. C. D.	Clin. Med. L. M.	Otol. L., Oct., Nov., Cl. E., Dec., Jan., Feb.	Clin. Med. Ophthalm. Cl. Clin. Otolaryng., Jan., Feb., Mar. C.	
10	10.30 Surg. Cl. M. after Dec.	Surg. Cl. Oct. till Apr. C. Gynaecol. Cl. D.	Cl. Dermatology. M.	Dis. of Nerv. System. M.	Surg. Visit. C. Gynaecol. Cl. D. till April.	Surg. Visit. M.
11	Surg. L., till Jan.		Diseases of Children.		Operations, C. Diseases of Children, D.	Operations. M.
12	Obstetrics, R.	Surg. Anat. L. Mar. & Apr.	Surg. Conf. M.	Surgery, L.	* Syphilis. D. Surg. Anat., L. Mar. & Apr.	Museum.
2	Gynaecol. L.		Leg. Med. L. till Feb.	* Ophthalm. L.		
3	Theo. & Prac. L.	* Ophthalmol- ogy, L. † Mental Dis.	Obstetrics, L.	Theo. & Prac. L.	Obstetrics, L.	Ment. Dis. Cl. * S.B. Sch. for Feeb Mind. Chil.
4	Therapeutics,	Dermatology, L.	Therapeutics.	Therapeutics.	Clinical Conf.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* During first half year.

† During second half year.

A. = McLean Insane Asylum; C. = Boston City Hospital; Ch. = Children's Hospital; Cl. = Clinic; D. = Boston Dispensary; E. = Eye and Ear Infirmary; L. = Lecture; Ly. = Boston Lying-in Hospital; M. = Massachusetts General Hospital; O.P.Cl. = Out Patient Clinic; R. = Recitation; S. = Samaritan Home; S.B. = So. Boston Insane Asylum; W. = Free Hospital for Women.

These abbreviations refer to the following as well as to the above tables.

Fourth Class. — MONDAY.

	October.	November.	December.	January.	February.	March.	April.	May.
9 AB GD	Surgical Vis., C. Eye Cl., C.	Surgical Vis., C. Eye Cl., C.	Ear Cl., E. Eye Cl., C.	Ear Cl., E. Ear Cl., C.	Ear Cl., E. Ear Cl., C.	Ear Cl., C.	Eye Cl., C. Surgical Vis., C.	Eye Cl., C. Surgical Vis., C.
10 AB GD	Child. Dis., D. Dis. of Rec., D.	Child. Dis., D. Dis. of Rec., D.	Child. Dis., D. Dis. of Rec., D.	Child. Dis., D. Dis. of Rec., D.	Child. Dis., D. Dis. of Rec., D.	Dis. of Rec., D. Child. Dis., D.	Dis. of Rec., D. Child. Dis., D.	Dis. of Rec., D. Child. Dis., D.
11 AB GD	Syph. Cl., D. { Surg., M. Obstet. Cl., Ly.	Syph. Cl., D. { Surg., M. Obstet. Cl., Ly.	Syph. Cl., D. { Surg., M. Obstet. Cl., Ly.	Syph. Cl., D. Surg., M.	Surg. V., M. Syph. Cl., D.	Surg. V., M. Syph. Cl., D.	{ Surg. V., M. { Surg. V., Ly. Syph. Cl., D.	{ Surg. V., M. { Surg. V., Ly. Syph. Cl., D.
3	Surgery, Ch.	Surgery, Ch.	Surgery, Ch.	Surgery, Ch.	Hygiene.	Hygiene.		Cooking School.
4	Orthoped., Ch.	Orthoped., Ch.	Orthoped., Ch.	Ovarian.	Ovarian.	Practical Hyg.		Cooking School.
5							D. Visit.	D. Visit.

TUESDAY.

	October.	November.	December.	January.	February.	March.	April.	May.
9 AB GD	Medical V., M.	O. P. Cl., M.	O. P. Cl., M.	Larynx, M. Nervous D., M.	Larynx, M. Nervous D., M.	Larynx, M. Nervous D., M.	Nervous D., M.	Nervous D., M.
10 AB GD	Skin Dis., M. Medical V., M.	Skin Dis., M. Medical V., M.	Skin Dis., M. Medical V., M.	Skin Dis., M. Medical V., M.	Medical V., M. Skin Dis., M.	O. P. Cl., M. Skin Dis., M.	O. P. Cl., M. Skin Dis., M.	O. P. Cl., M. Skin Dis., M.
11 AB GD	Ophthalm., M. Med. V., S.	Ophthalm., M. Med. V., S.	Ophthalm., M. Med. V., S.	Ophthalm., M. Med. V., S.	Ophthalm., M. Med. V., S.	O. P. Cl., M.	O. P. Cl., M.	O. P. Cl., M.
12	Genito-Urin., M.	Genito-Urin., M.	Genito-Urin., M.	Genito-Urin., M.	Genito-Urin., M.			
3-4	Legal Med.	Legal Med.	Legal Med.	Legal Med.	Legal Med.	Legal Med.	Legal Med.	Legal Med.
4	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.
5							D. Visit.	D. Visit.

WEDNESDAY.

	October.	November.	December.	January.	February.	March.	April.	May.
9 AB GD	O. P. Cl., M. Eye Cl., C.	O. P. Cl., M. Eye Cl., C.	Ear Cl., E. Eye Cl., C.	Ear Cl., E. Ear Cl., C.	Ear Cl., E. Ear Cl., C.	Ear Cl., C.	Eye Cl., C. O. P. Cl., M.	Eye Cl., C. O. P. Cl., M.
10 AB GD	Skin Cl., M. Gynaecol., D.	Skin Cl., M. Gynaecol., D.	Skin Cl., M. O. P. Cl., C.	Skin Cl., M. O. P. Cl., C.	{ Gynaecol., D. { O. P. Cl., C. Skin Cl., M.	{ Gynaecol., D. { O. P. Cl., C. Skin Cl., M.	{ O. P. Cl., C. { Gynaecol., D. Skin Cl., M.	{ O. P. Cl., C. { Gynaecol., D. Skin Cl., M.
11			O. P. Cl., C.	O. P. Cl., C.	O. P. Cl., C.	O. P. Cl., C.	O. P. Cl., C.	O. P. Cl., C.
3	Bacteriology.	Bacteriology.	Bacteriology.	Bacteriology.	Hygiene.	Hygiene.		Cooking School.
4	Orthoped., Ch.	Orthoped., Ch.	Orthoped., Ch.					Cooking School.
5							D. Visit.	D. Visit.

THURSDAY.

9	AB	Otology.	Otology.	Otology.	Nervous D., M. Laryn., M.	Nervous D., M. Laryn., M.	Nervous D., M.
10	AB	Child. Dis., D. Gen. Urin., D. O. P. Cl., D.	Child. Dis., D. O. P. Cl., D. Gen. Urin., D.	Child. Dis., D. Gen. Urin., D. O. P. Cl., D.	Gen. Urin., D. Child. Dis., D. Surgical Visit, C.	Gen. Urin., D. Child. Dis., D. Surgical Visit, C.	Nervous D., M.
11	AB	Ophthalm., M.	Ophthalm., M.	Ophthalm., M.	Ophthalm., M.	Ophthalm., M.	Child. Dis., D. Surgical Visit, C.
3	OD	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.
4	OD	Gynaecol. Oper., W.	Gynaecol. Oper., W.	Gynaecol. Oper., W.	Gynaecol. Oper., W.	Gynaecol. Oper., W.	Gynaecol. Oper., W.
5	OD						Child. Cl., D.

FRIDAY.

9	AB	Medical V., M.	Medical V., M.	Medical V., M.	Laryn., M. Nervous D., M.	Laryn., M. Nervous D., M.	Medical V., M.
10	AB	Skin Dis., M. O. P. Cl., M.	Skin Dis., M. O. P. Cl., M.	Skin Dis., M. O. P. Cl., M.	Skin Dis., M. O. P. Cl., M.	Skin Dis., M. O. P. Cl., M.	O. P. Cl., M. Skin Dis., M.
11	AB	Obstet. Cl., Ly. Surgical Vis., M.	Obstet. Cl., Ly. Surgical Vis., M.	Obstet. Cl., Ly. Surgical Vis., M.	Surgical Vis., M.	Surgical Vis., M.	Surgical Vis., M. Obstet. Cl., Ly.
3	OD	Clinical Med., C.	Clinical Med., C.	Clinical Med., C.	Clinical Med., C.	Clinical Med., C.	Ment. Dis. Cl., A.
4	OD	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Gynaecol. Cl., W.	Ment. Dis. Cl., A.
5	OD						D. Visit.

SATURDAY.

9	AB	Otology.	Otology.	Otology.	Nervous D., M. Laryn., M.	Nervous D., M. Laryn., M.	Vaccination, City Institut'n.
10	AB	Gynaecol. Cl., C. Gynaecol., D.	Gynaecol. Cl., C. Gynaecol., D.	Gynaecol. Cl., C. Gynaecol., D.	Gynaecol. Cl., C. Gynaecol., D.	Gynaecol. Cl., C. Gynaecol., D.	Gynaecol., D. Gynaecol. Cl., C.
11	OD	Clinical Med., D.	Clinical Med., D.	Clinical Med., D.	Clinical Med., D.	Clinical Med., D.	Clinical Med., D.
12	OD	Clinical Micro.	Clinical Micro.	Clinical Micro.	Clinical Micro.	Clinical Micro.	
3	OD	Mental Dis., S. B.	Mental Dis., S. B.	Mental Dis., S. B.	Mental Dis., S. B.	Mental Dis., S. B.	

The course in Operative Gynaecology will be given in May, from 7 to 9 P.M.

EXAMINATION PAPERS.

(June Examination, 1887.)

First Year's Studies.

ANATOMY. — Professor DWIGHT.

1. What differences in each of the following parts of a typical cervical, dorsal, and lumbar vertebra? (*a*) the body; (*b*) the spinous process; (*c*) the transverse processes; (*d*) the articular processes.
 2. In or between which bones are the following openings, and what passes through each? (*a*) the sphenoidal fissure; (*b*) the anterior condyloid foramen; (*c*) the jugular foramen; (*d*) the foramen rotundum.
 3. Describe the hip joint.
 4. Describe (*a*) the pectoralis major; (*b*) the deltoid; (*c*) the gluteus maximus; (*d*) the semi-membranosus.
 5. Describe a section of the spinal cord at the cervical enlargement.
 6. Describe the arteries of the hand.
 7. Which kind of epithelium is found in (*a*) the pharynx; (*b*) the oesophagus; (*c*) the large intestine; (*d*) the bladder; (*e*) the Fallopian tubes?
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PHYSIOLOGY. — Professor BOWDITCH.

[Number the answers to the questions without copying the questions themselves. Do not number the pages of the book. Answer the questions in order, writing on each page in succession.]

1. What causes the sensation of hunger?
2. What is the value of gelatine as food?
3. Describe the mechanism of deglutition.
4. What is the function of the gastric juice?
5. Describe the coagulation of the blood.
6. How may the work of the heart be measured?
7. What relation is there between muscular work and the production of urea?
8. What are the functions of ciliated epithelium in the human body?
9. How do the respiratory movements affect the blood tension?
10. Describe intestinal absorption, with a diagram of a villus.
11. What is the difference between warm-blooded and cold-blooded animals?
12. Why does moisture in the air make warm weather more oppressive?
13. What is the origin and destiny of liver sugar?
14. How may the reflex irritability of the spinal cord be diminished?

15. Why does the pupil of the eye appear dark?
16. What nerve centres are situated in the lumbar region of the spinal cord?
17. What is the "respiratory quotient" and how is it affected by diet?
18. How does an examination of the excretions show the amount of nitrogenous and non-nitrogenous substances undergoing decomposition in the body?
19. What is the function of the auricles of the heart?
20. What tissues waste most rapidly and completely in starvation?

GENERAL CHEMISTRY. — Assistant Professor HILLS.

[Answer the questions in order, writing on each page in succession.]

1. Relation between vapor density and molecular weight? Specific heat and atomic weight? Weight in grams of one liter of oxygen? One liter of carbon dioxide (one liter of hydrogen = 0.0896 gram)? One example each of elements whose molecules consist of one, two, three, and four atoms?

2. What is the symbol of the substance whose vapor density, referred to hydrogen, is 59.75, and whose percentage composition is, —

$$C = 10.04, \quad H = 0.83, \quad Cl = 89.13?$$

Leave all the work.

3. Define (1) an acid, (2) a base, (3) a salt, (4) mono-, di- and tribasic acids, giving an example of each. Difference between an alcohol and a phenol?

*4. Properties of arsenious oxide (white arsenic).

5. Potassium iodide.

6. Potassium chlorate.

7. Common phosphorus.

8. Potassium cyanide.

9. Sodium salicylate.

10. Chloroform.

11. From what are the substances named in questions 7, 8, 9, and 10 obtained, and for what are they used?

12. Preparation of nitric acid? Its action on organic tissues? Relation of nitrates in general to solvents? How do they act when heated with charcoal? Write the reaction of nitric acid on a metal and on a metallic oxide.

13. Define clearly deodorizers, disinfectants, and antiseptics. What are the most efficient practical disinfectants? Applications?

* In answering questions 4 to 10 inclusive, follow, without any deviation, the following order:—

1. Physical state, i. e. solid, liquid, or gas. 2. Color, odor, taste. 3. Crystalline form, if any. 4. Volatile or non-volatile. 5. Solubility in water. Solubility in other solvents, if important. 6. Action on the system, so far as you have been told. 7. Any characteristic chemical property (not the chemical tests). 8. Anything else of importance which occurs to you.

QUALITATIVE ANALYSIS.

14. Why must the organic matter of an unknown substance be destroyed before the examination for most of the metallic elements? Two methods for the destruction of organic matter?

15. Describe the process for bringing a non-metallic solid substance into solution. A metallic substance.

16. Why must the examination for the metallic elements precede that for the non-metallic elements?

17. Upon what facts does the separation of the chlorides of the silver group depend?

18. Copper Group. Why necessary to remove every trace of HCl before dissolving the group precipitate in HNO_3 ? Why remove most of the HNO_3 by evaporation before testing for lead with H_2SO_4 ?

19. Iron Group. Why acidify before testing for chromium with $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$? Why use $\text{HC}_2\text{H}_3\text{O}_2$ instead of HCl or HNO_3 ?

20. Barium Group. Why use $\text{HC}_2\text{H}_3\text{O}_2$ to dissolve the precipitated carbonates? After removing strontium from the solution, why necessary to add NH_4OH before testing for calcium with $(\text{NH}_4)_2\text{C}_2\text{O}_4$?

MATERIA MEDICA. — Assistant Professor F. H. WILLIAMS.

(Write all prescriptions carefully and with full directions.)

1. Four rules for prescription writing.
2. Write four prescriptions for iron.
3. What preparations of ammonia are used in medicine? of potassium? of magnesium?
4. Alcohol, water, glycerine, which is the most and which the least volatile? What is a pharmacopeia?
5. Preparations of iodine? ipecac? jalap? rhubarb? aconite? With doses.
6. Write four prescriptions for preparations of opium.
7. Composition of compound jalap powder? Dover's powder? compound powder of glycyrrhiza? compound cathartic pill?
8. Write three prescriptions for mercury.
9. Write three prescriptions for pills. Write for suppositories of opium.
10. Properties of citrate of caffeine? calomel? bitartrate of potassium? iodide of potassium? chlorate of potassium? iodoform?
11. Properties of alum? permanganate of potassium? chromic acid? iodine? chloral?
12. Write six prescriptions for cathartics.
13. Write a prescription for : phosphate of soda; solution of chlorinated soda; acetate of ammonium; arsenic.
14. Write a prescription for a preparation of bismuth; of nux vomica; of tannin.

15. Active principles of belladonna? digitalis? nux vomica? opium? cinchona?
16. What are aquae? active principles of guarana? veratrum viride?
17. What is denarcotized opium? Properties of carbolic acid?
18. What solvent would you choose for gums? albumen? gelatine? resins?
19. Write a prescription for digitalis for a child five years old.
20. Precautions in using drugs subcutaneously.

Second Year's Studies.

MEDICAL CHEMISTRY. — Professor Wood.

1. Methods for estimating accurately the amount of urea in urine?
2. How distinguish between sugar and other reducing agents in the urine?
3. Character of the urine in the last stage of interstitial nephritis?
4. How distinguish by an examination of the urine between convalescence from acute nephritis and interstitial nephritis, when the daily amount of urine is about 3000 cc.?
5. Character of the urine in a case of uric acid renal calculus?
6. What inferences can be drawn from urine having the following characteristics? Why?

Pale. Acid. Sp. Gr. = 1013. Amount of sediment = Considerable.

Uph. = —. \bar{U} . = —. Cl. = sl. —. E. P. = —.

Ind. = +. \bar{U} . = n. Sf. = n. A. P. = —.

Alb. = $\frac{1}{2}$ %. Bile and sugar absent.

Sediment = Numerous hyaline, granular, and fatty casts; fatty renal epithelial cells; compound granule cells; pus corpuscles free and arranged in clumps together with normal blood globules and small round cells.

Total amount of urine	= 1850 cc.
“ “ “ urea	= 23.450 grm.
“ “ “ chlorine	= 4.340 “
“ “ “ P_2O_5	= 1.510 “
“ “ “ albumen	= 5.550 “

7. Describe the difference in the appearance of normal and abnormal blood globules in the urinary sediment. Under what circumstances do the former become converted into the latter?
8. Mention the causes of the formation of urinary concretions.
9. Tests for distinguishing quickly between arsenic and oxalic acid? Arsenic and tartar emetic? Strychnine and morphine?
10. Sources of lead poisoning?
11. Symptoms and post-mortem appearances of opium poisoning?
12. Symptoms of chronic arsenic poisoning?

PATHOLOGICAL ANATOMY. — Professor FIRZ.

1. State the appearances indicative of gangrene.
2. Give the evidence in favor of the sole origin of pus from bacterial action.
3. Describe the appearances characteristic of a thrombo-phlebitis.
4. State the channels through which Koch's bacillus may invade the body.
5. Discriminate between cerebral softening from embolism and from hemorrhage.
6. Distinguish between degeneration of the spinal cord and spinal sclerosis.
7. Describe the cardiac changes which result from sudden obliteration of the coronary artery.
8. Distinguish between the several varieties of acute pneumonia.
9. Discriminate between pulmonary consumption and pulmonary tuberculosis.
10. Describe a dissecting aneurism and state its usual place of occurrence.
11. Mention the causes and consequences of rupture of the spleen.
12. Describe the alterations of the pancreas which may be found in diabetes.
13. Enumerate the causes of intestinal obstruction.
14. State the variety of intestinal ulcers which heal without resulting scars.
15. Enumerate the causes which may lower the inferior border of the liver.
16. Describe the appearances of an emphysematous liver and give its method of origin.
17. State how the disturbances resulting from an impacted gall-stone vary according to its seat.
18. Explain the occurrence of scars in the cortex of the kidney.
19. Explain the method of origin of a sacculated bladder.
20. Discriminate between hydro-, haemo-, and pyo-salpinx.

TOPOGRAPHICAL AND ADVANCED ANATOMY.

Professor DWIGHT.

1. The course and relations of the duodenum.
2. The scrotum and its contents.
3. The relations of the aorta from its origin to the diaphragm.
4. The course of the motor tracts for the limbs from the cortex of the brain through the spinal cord.

Third Year's Studies.**THERAPEUTICS. — Assistant Professor F. H. WILLIAMS.**

(State clearly what you mean and do not repeat.)

1. Six cathartics. Prescriptions for each. Uses to which they are adapted, including constipation.
 2. Action and uses of ammonia. Acetate of ammonium. Pilocarpine. Write prescriptions for each.
 3. What directions would you give for rectal alimentation? Outline of diet for convalescence from pneumonia. Action of cod-liver oil.
 4. What are the indications for, and what rules should govern the uses of morphine? Treatment of opium poisoning.
 5. Compare nitrous oxide, chloroform, and ether as anaesthetics.
 6. Treatment of insomnia. Action and comparative value of hypnotics. Prescriptions for four hypnotics.
 7. Action and uses of atropine. Strychnine.
 8. Action of diuretics. In what ways may the urine be made alkaline; acid. Write prescriptions for producing these effects.
 9. Action and clinical use of alcohol.
 10. Action and uses of ergot. Nitrite of amyl. Elimination of iodide of potassium. Salicylate of soda. Chloral. Morphine. Quinine.
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OBSTETRICS. — Professor W. L. RICHARDSON.

1. When is the placenta formed? At what period of foetal life are the sexes differentiated?
2. What are the symptoms which point to the death of the foetus in utero during the seventh month?
3. What are the prodromic symptoms of eclampsia in a pregnant woman? Treatment?
4. Hydatiform mole. Pathology, diagnosis, prognosis, and treatment?
5. Explain why uterine contractions detach a placenta normally situated without a hæmorrhage, while the same contractions detach a placenta prævia partialis with a hæmorrhage.
6. Head presentation — occiput right posterior. Describe the mechanism of labor.
7. What forces are represented by the forceps? Indications and contra-indications for the use of the forceps.
8. Version. Indications and contra-indications for its performance.
9. Prevention and treatment of puerperal septicæmia.
10. A primipara at full term has been in labor twelve hours. The os is dilated to the size of a silver dollar. The membranes are unruptured. The head, not yet engaged and somewhat extended, presents with the occiput right posterior. Immediate delivery is indicated in the interest of the child. Describe in detail the treatment of the case.

SURGERY.—Professor CHEEVER.

1. Bone abscess; symptoms; pathology and treatment.
2. What are some of the terminations of inflammation and how are they brought about?
3. Dislocations of the hip: diagnosis and treatment.
4. Enumerate the different forms of fever which may result from a wound and give their causes.
5. When would you trephine the skull?
6. Contrast the symptoms of shock with those of compression of the brain.
7. Reducible, irreducible, incarcerated, and strangulated hernia. Symptoms and treatment.
8. Give the varieties and prognosis of sarcoma of bone.
9. Differential diagnosis and treatment of fracture of the humerus just above the condyles and dislocation of the elbow backwards.
10. Differential diagnosis of fissure of the rectum, stricture of the rectum, and piles.

CLINICAL SURGERY.—Professor PORTER.

CASE I.—A man, aged 45, in fair flesh but anaemic in appearance, with no history of any hereditary taint, no constitutional disease, has two perineal fistulae, through which a portion of his urine is discharged. He states that he has never been sick except with three "cases of clap," one eight, one five, and the last three years ago. From the first two he thinks he entirely recovered. After the acute stage of the last attack he had a thin discharge which glued the meatus together in the morning. It was not sufficient to soil his linen or attract special attention. Two years ago he noticed some diminution in the size of his stream and was obliged to strain to start his urine; the flow was slow, but "never stopped entirely on him." A year ago he had a dull pain come on in the perineum, which increased in severity, a "bunch formed" to the left of the median line, tender to touch, very painful during micturition, which finally "burst" and discharged about a tablespoonful of "stinking matter." In a few days "after the bunch had flattened a good deal," he was surprised to find that the urine came through the opening. He was relieved for a while, but soon the left side of his "bag" commenced to swell and became painful and tender. The swelling increased to the size of a large "pear" and finally "broke." The swelling subsided, but urine came through this opening also.

- a. State the pathological changes and give their sequence, which, irritated by a gonorrhoea, lead to perineal fistulae.
- b. State the anatomy which determines the direction which extravasated urine takes.
- c. Give the operations for relief of the condition described above.
- d. Give the course and progress of this condition, if unrelieved by surgical interference, and the pathological changes which cause death where no treatment is received.

CASE II. — A man, 25 years old, in vigorous health, with no hereditary or contracted vice of constitution, falls from a height striking upon his right knee, receiving thereon the principal force of the fall, tumbles over, striking upon the back of his head. He is found unconscious. His pulse is quick and weak. His respiration is sighing. His skin cold and clammy. His temperature is subnormal. His pupils contracted but respond to light. No external signs of head injury except a contusion of scalp, where his head struck. No fracture or depression of skull.

Upon examination of his right knee there is found a compound fracture of patella with wound extending transversely from condyle to condyle. His clothes (drawers, pantaloons, and overhauls), untorn, have protected the wound from dirt.

- a. How do you interpret his head symptoms? Give diagnosis, prognosis, and treatment of head injury.
- b. How would you treat the right knee?
- c. State your reasons for whatever treatment you recommend.
- d. Give diagnosis, treatment, and prognosis of injury to right knee.

THEORY AND PRACTICE. — Professor MINOT.

1. Perityphlitis; its etiology, course, diagnosis, and treatment.
2. Give the causes, diagnosis, and treatment of dilatation of the stomach.
3. Emphysema, its forms, causes, diagnosis, and treatment.
4. Describe a case of tetanus neonatorum.
5. The diagnosis and treatment of retropharyngeal abscess in children.
6. The value of delirium as a diagnostic sign of cerebral disease.
7. What diagnostic signs of disease are furnished by the skin?
8. The symptoms and treatment of diphtheria.
9. The differential diagnosis of pleurisy and pneumonia.

CLINICAL MEDICINE.

Assistant Professor WHITTIER.

[Give the differential diagnosis, the prognosis, and the treatment of as many of these cases as the time will allow discussing them in the order in which they are arranged. Assume that symptoms not mentioned are wanting; but as omissions, intentional or not, may occur, state them if essential. Success will depend more upon the quality than upon the quantity of the work. The intelligent discussion of the cases will have more weight than a hasty and inconclusive though correct diagnosis.]

CASE 1. — Mrs. J., 65 years of age. Active, spare, energetic woman. Always well. Has had three children. During last few years has noticed some shortness of breath on going up hill. Two weeks ago had an attack of dyspepsia with dizziness. On Sunday evening she ate a hearty supper of chopped codfish and potatoes warmed up in pork fat. Immediately after rising from the table she started out for a walk with her husband. After walking about a quarter of a mile she noticed a shortness of breath,

which rapidly increased to great distress. On reaching a friend's house she had barely strength to enter and she could scarcely draw her breath.

Twenty-five minutes later the following symptoms were noticed: Patient was sitting up propped by pillows and with loosened clothing. Respiration was from 30-40 times per minute, and accompanied by a loud rattle in the throat. The larynx moved violently up and down. No pain anywhere. Face was drawn and blue. Nose was pinched. Hands and fingers purple. Skin cold and clammy. The carotids were throbbing strongly. Heart was beating tempestuously — 140 times per minute. Auscultation revealed the lungs full of coarse, medium and fine rales everywhere up to the second rib on each side. Sub-crepitant rales could also be distinguished. Owing to the noisy breathing no definite information could be obtained regarding the cardiac valves.

CASE 2. — A gentleman, aet. 27, who is subject to constipation at times, took pills six days ago, and when they operated was seized with an excruciating pain in the right iliac region, demanding for its relief repeated subcutaneous injections of morphia. At present he lies on the back with knees drawn up, and a distended and tender abdomen, nowhere dull on percussion. There is hiccough, but no vomiting. The bowels have not moved since the first day. The temperature is 99.8° ; and the pulse, which is small and feeble, is 96. No abnormal sense of resistance is obtainable by such palpation as the patient can endure. *Per anum*, the finger comes upon a small and tender mass high up in the right sacro-iliac region.

CASE 3. — A married woman, aet. 34, large and fat in person, is seen as a patient. She reports having had two children and three miscarriages, the last six weeks previously. Otherwise she says her health has always been good, until within three or four months; had been in the habit of drinking beer freely, but had not been intemperate. There were present, pronounced jaundice; constant anorexia and bilious vomiting soon after eating; dizziness, flatulence, occasional diarrhoea; pain at epigastrium; slight oedema of feet and ankles. These symptoms had been developing and increasing since she first began to feel sick. There was no headache and there had been no hemorrhages or chills.

The tongue was clean, the pulse 80, temp. 97.8° F. The heart and lungs were normal. The liver was much enlarged and smooth. The spleen was enlarged, being felt below the ribs. There was no ascites. The urine had a sp. gr. of 1017, was of a deep yellow color, and contained a small amount of albumen and much bile pigment; the sediment was normal. An examination of the blood gave a negative result. Diagnosis, treatment, prognosis.

CASE 4. — A lawyer, 47 years of age, of good family history, and of average general health previous to his present illness, had for many years complained of dyspeptic disturbances. He had been noticed by his friends to be losing flesh for three or four months and to have grown pale. He described frequent headaches, inability to take his accustomed exercise from weakness and shortness of breath on exertion, with increased action of the heart on going up stairs. He had consulted an oculist for impaired vision and had been referred to his family physician for general treatment.

His physician noted as follows: Pallor, diminished eyesight, fulness of eyelids, increased pulsation in vessels of neck, increased frequency of

respirations, exaggerated action of the heart, apex in sixth interspace, mam. line.

The heart-sounds were loud, and the valvular sounds at the base were accentuated; respiratory sounds at base of chest behind were lessened, and numerous fine moist rales could be heard in lower portions and in the anterior margin of each lung.

Abdomen negative, except for the marks of clothing about the waist. There were evidences of swelling of feet and ankles, and the patient stated that at times his hands seemed larger than usual. The patient also mentioned cough, with thin, frothy expectoration, and that of late micturition at night had annoyed him, and that the quantity of urine voided in 24 hours was increased, measuring two quarts and half pint — thought it might be due to Poland water which he was drinking in quite large quantities.

Urine examined, was low in sp. gr., 1011; pale in color. Albumen in small quantity was present. Granular and hyaline casts, and some fatty elements were found in considerable number.

Within three months there was gradual change for the worse, and after a day of considerable exposure he had a chill, was much alarmed by a severe headache and lack of desire to urinate, voiding but little during 24 hours. He was found in bed, unconscious, on the third day after the chill, and died on the following afternoon

Fourth Year's Studies.

OPERATIVE SURGERY. — Professor PORTER.

- I. Describe the operation for ligature of the brachial at elbow.
 - II. Ligature of the lingual.
 - III. Ligature of the posterior tibial (high).
 - IV. Excision of the shoulder joint.
 - V. Excision of portion of rib.
 - VI. Tracheotomy.
 - VII. Amputation of penis.
 - VIII. Amputation of leg at "point of election."
 - IX. Amputation of thigh, circular.
 - X. Amputation at wrist-joint.
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CLINICAL AND OPERATIVE OBSTETRICS.

Professor W. L. RICHARDSON.

1. Relations existing between pregnancy and intermittent fever.
2. Discuss the various causes which may occasion a marked rise of temperature the evening of the fourth day after delivery.
3. Describe the operation of decapitation.

4. A primipara in the ninth lunar month is seized with uræmic eclampsia, and has four convulsions in rapid succession. The cervix is taken up and the os admits one finger. The head, presenting with the occiput left anterior, is not engaged. The membranes are unruptured. Describe in detail the treatment.

OPHTHALMOLOGY. — Professor WILLIAMS.

1. How does catarrhal conjunctivitis differ from trachoma in its structural alterations, course, and treatment?
 2. How may various diseases of the cornea affect vision?
 3. What important ocular injuries may result from blows upon the eyeball?
 4. What pathological changes of the eye may accompany progressive myopia?
 5. What evidences of kidney disease are discoverable in the eye?
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DERMATOLOGY. — Professor WHITE.

1. Describe the tissue changes in the development of a vesicle.
 2. Differential diagnosis between eczema and psoriasis.
 3. Describe the pigmentary affections of the skin.
 4. Treatment of alopecia furfuracea.
 5. Nature of lupus vulgaris.
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GYNAECOLOGY. — Assistant Professor BAKER.

1. Give the normal position of the ovaries, and the displacements to which they are liable, and briefly outline the treatment; non-operative.
 2. Cancer of the uterus. In what portions of the organ may it occur, and with what relative frequency, and what are the prominent symptoms? Describe the palliative and radical operations for its relief.
 3. Describe the various positions in which you would place a woman to examine the position of the uterus.
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DISEASES OF CHILDREN. — Dr. ROTCH.

1. Describe the different diseases of the mouth which occur in infants.
2. Intestinal parasites; diagnosis; treatment.
3. Give the symptoms, prognosis, and treatment of chronic gastro-duodenal catarrh.

DISEASES OF THE NERVOUS SYSTEM. — Dr. PUTNAM.

Not more than three questions need be answered fully, but credit will be given for more *if fully answered*.

1. Give the symptoms which would be produced by lesions (destructive or irritative) in different parts of the brain ("localizing symptoms").
2. Describe the different varieties of headache, with their clinical significance.
3. Contrast locomotor ataxia; multiple neuritis; disseminated spinal sclerosis, as regards their diagnosis.
4. How can you distinguish between muscular atrophy due to lead-poisoning, and that due to typical progressive-muscular atrophy, supposing the same muscles to be involved in both cases.
5. Describe the connection between syphilis and diseases of the spinal cord.
6. What pathological conditions might be present in the following cases, and why: A man in middle life; works in leather; history of exposure to cold; used to drink to excess; 8 weeks ago had pain in both shoulders and upper arms, of dull aching character, lasting 4 weeks without material loss of power; then pretty rapid loss of power with cessation of pain; now almost complete atrophy of deltoid, supra- and infraspinatus, extensor communis digitorum of both sides, with degenerative reaction; no tenderness anywhere.
Would your diagnosis be different if the patient should go a year without much improvement?
7. What nervous symptoms would make you suspect chronic alcoholism?

MENTAL DISEASES. — Dr. FOLSON.

Describe, giving also prognosis and general indications for treatment: —

1. Primary confusional insanity.
2. Primary delusional insanity.
3. Simple mania.
4. Simple melancholia.
5. Acute delirium.
6. The prodromal stage of general paralysis.

LARYNGOLOGY. — Assistant Professor KNIGHT.

1. Describe the normal laryngoscopic image during respiration, giving the principal landmarks, including the pockets in which foreign bodies may lodge.
2. The normal rhinoscopic image.
3. Describe a case of epithelioma of the larynx. Differential diagnosis. Treatment.
4. Tuberculosis of the larynx. Differential diagnosis. Treatment.
5. Indications for removal of enlarged tonsils. Methods.

OTOLOGY. — Drs. GREEN and BLAKE.

1. Describe the appearances on inspection of the drum-membrane in its normal condition.
 2. Name the three principal divisions of the labyrinth and their positions in relation to each other.
 3. Describe the functions of the Eustachian tube and its muscular mechanism.
 4. The common diseases of the external auditory meatus; their diagnosis and treatment.
 5. How would you distinguish between acute inflammation of the middle ear and neuralgia?
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LEGAL MEDICINE. — Assistant Professor DRAPER.

1. What appearances upon the skin indicate the entrance-wound of a bullet from a pistol fired at a distance of six inches from the body?
 2. What are the post-mortem appearances after death by carbonic oxide gas?
 3. What determines the amount of separation of the edges of an incised wound?
 4. A dead body, without signs of decomposition, is found floating in the water; what are the appearances that would determine that the cause of the death was submersion?
 5. What organs are most important to preserve for chemical examination in a case of poisoning? Give reasons for the answer.
 6. Under what conditions may a contused wound resemble an incised wound in its characters?
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VENEREAL DISEASES. — Dr. GREENOUGH.

- I. How would you treat a case of (a) balanitis, (b) herpes progenitalis, (c) chancroid, (d) primary syphilitic lesion?
- II. (a) What are the indications for the administration of a mercurial in syphilis?
 (b) What are the counter indications?
 (c) What other means have we of bringing a patient under the influence of a mercurial, besides that of internal administration?
- III. (a) State the indications for the use of the iodide of potassium in syphilis.
 (b) The counter indications.
- IV. What condition of the lymphatic glands would you expect to find in a case of syphilis at the time of the first appearance of the constitutional symptoms?
- V. What is the cause of the so-called copper color of the syphilitic dermatata?
- VI. A young man consults you with a small ulceration on his prepuce, following coitus. What investigations would you make in the way of physical examination, questioning the patient, etc., to establish the diagnosis?

ADMISSION EXAMINATION PAPERS.

LATIN.

TRANSLATE:—

Africa serpentes generat vicenum cubitorum; nec minores India. Certe Megasthenes scribit, serpentes ibi in tantam magnitudinem adollescere, ut solidos hauriant cervos taurosque. In primo Punico bello ad flumen Bagradam serpens centum viginti pedum a Regulo, imperatore Romano, ballistis et tormentis expugnata esse fertur. Pellis ejus et maxillae diu Romae in templo quodam asservatae sunt. In India serpentes perpetuum bellum cum elephantis gerunt. Ex arboribus se in praetereuntes praecipitant gressusque ligant nodis. Hos nodos elephant manu resolvunt. At dracones in ipsas elephantorum nares caput condunt spiritumque praeccludunt plerumque in illa dimicatione utrique commoriuntur, dum victus elephas corruens serpentem pondere suo elidit.

FRENCH.

1. Je venais d'avoir vingt ans, lorsque ma mère entra un matin dans ma chambre, s'approcha de mon lit, m'embrassa en pleurant, et me dit:— Mon ami, je viens de vendre tout ce que nous avons pour payer nos dettes.

— Eh bien, ma mère?

— Eh bien! mon pauvre enfant, nos dettes payées, il nous reste deux cent cinquante-trois francs.

— De rente? . . .

Ma mère sourit tristement.

— En tout? . . . repris-je.

— En tout.

— Eh bien! ma mère, je prendrai ce soir les cinquante-trois francs, et je partirai pour Paris.

Et le soir même, je partis en effet, non sans m'être muni de quelques lettres de recommandation, — d'une, entre autres, pour le général Foy.

A peine arrivé à Paris, un de mes premiers soins fut de me présenter chez cet honorable général. Je fus introduit dans son cabinet: il travaillait à son *Histoire de la Péninsule*. Au moment où j'entrai, il écrivait debout, sur une de ces tables qui se lèvent ou s'abaissent à volonté; autour de lui étaient épars, dans une confusion apparente, des discours, des cartes géographiques et des livres entr'ouverts.

Il se retourna en entendant ouvrir la porte de son sanctuaire, avec la vivacité qui lui était habituelle, et arrêta ses yeux perçans sur moi. J'étais tout tremblant.

— Monsieur Alexandre Dumas? . . . me dit-il.

— Oui, général.

2. Write a few lines in the French language describing the city of New York.

GERMAN.

TRANSLATE (into idiomatic English) : —

Ein Jäger wandelte mit seinem Knaben auf dem Felde, und es floss ein tiefer Bach zwischen beiden. Da wollte der Knabe zu seinem Vater hinüber, aber er vermochte es nicht, denn der Bach war sehr breit. Sogleich schnitt er sich einen Ast aus dem Gebüsch, setzte den Stab in das Bächlein, lehnte sich keck darauf und gab sich einen gewaltigen Schwung. Aber siehe! es war der Art eines Fliederbaums,¹ und indem der Knabe über dem Bach schwebte, brach der Stab mitten entzwei und der Knabe that einen tiefen Fall in das Wasser, und die Wellen brausten und schlugen sich über ihm zusammen.

Dieses sah ein Hirt von ferne und lief hinzu und erhob ein Geschrei. Aber der Knabe blies das Wasser von sich und schwamm lachend an das Ufer.

¹ *elderbush.*

PHYSICS.

1. What is the unit of velocity?
 2. Explain the use of the pendulum in regulating clocks.
 3. How determine the specific gravity of a solid?
 4. What is the composition of the atmosphere? Why does it remain practically unchanged?
 5. What is latent heat?
 6. What other characteristics of sound besides pitch are perceived by the ear?
 7. What are the principal laws for the expansion of liquids?
 8. What is the general law for the conversion of heat into mechanical energy?
 9. Why is it impossible to use for ordinary optical purposes a glass prism, the angle of which is greater than 84° ?
 10. Define the term *electric density*.
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GEOMETRY.

1. Define a trapezium, a rhombus, a triangle, an obtuse angle.
2. In an isosceles triangle the angles opposite the equal sides are equal.
3. If two parallel lines are cut by a third straight line the sum of the two interior angles on the same side of the secant line is equal to two right angles.
4. The diagonals of a parallelogram bisect each other.
5. In the same circle or equal circles, equal chords subtend equal arcs.

ALGEBRA.

(Leave all the work.)

1. If $a = 2$, $b = 3$, $c = 4$ find the value of $\sqrt{27b} - \sqrt[3]{2c} + \sqrt{2a}$.
2. Find the sum of $(a + b)x$, $2cx$ and $2x$.
3. Subtract $3xy - x^3 - 7a$ from $5xy + 2x^3 + 2a$.
4. Multiply $-a(a + y)^3$ by $2a(a + y)^2$.
5. Multiply $(x - y)$ by $x + y$.
6. Divide $(x + y)^3 - (x + y)^2$ by $(x + y)$.
7. Divide $x^3 - 5x^2 - 46x - 40$ by $x + 4$.
8. Find the greatest common divisor of $3x^3 - 24x - 9$ and $2x^3 - 16x - 6$.
9. What is the sum of $x - \frac{4a^2}{b}$ and $y + \frac{2ax}{c}$?
10. Divide 72 into two such parts that 3 times the greater shall exceed twice the less by 121.

BOTANY.

1. With how many species of wild flowers in your own neighborhood are you familiar?

Mention the botanical names and families of two or three peculiar to that neighborhood and ten (10) which are widely distributed through the United States.

2. Mention and describe some of the important plants (not necessarily indigenous) in the following orders:—

(1) Lauraceae, (2) Leguminosae, (3) Liliaceae.

3. Describe the parts of a flower and their uses.

4. Describe the process of fertilization in plants.

Phaenogamous, (b) Cryptogamous.







